

REMEDIAL INVESTIGATION WORKPLAN

**CENTRAL STEEL DRUM
704 Doremus Avenue
Newark, NJ**

Prepared For

**Central Steel Drum
704 Doremus Avenue
Newark, NJ**

Prepared By

**J M Sorge, Inc.
50 County Line Road
Somerville, NJ 08876**

JMS Project 93086

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CENTRAL STEEL DRUM REMEDIAL INVESTIGATION PLAN

1.0 INTRODUCTION

J M Sorge, Inc. (JMS) was retained by Central Steel Drum to develop a Remedial Investigation Workplan (RIW) for their facility located in Newark, New Jersey. The RIW is required in accordance with a Joint Consent Order (JCO) executed between Central Steel Drum (CSD) and the New Jersey Department of Environmental Protection and Energy (NJDEPE). The initial plan was prepared following a meeting between NJDEPE and CSD on June 14, 1990. During that meeting it was mutually agreed that CSD would conduct a RIW of the site. The following represents a revision of the initial plan to incorporate changes required by NJDEPE's technical guidance for plan preparation. Specifically, the following plan was developed in accordance with the Department's Technical Site Requirements for Site Remediation (TRSR) published on June 7, 1993.

The objective of the RIW is to identify the presence and extent of any areas of significant contamination on the site. The RIW will include an investigation of soil, groundwater and surface water conditions, and sediment quality on and around the CSD facility. The soil program will determine the soil quality within the fill layer since the primary potential source of site contamination is surface spillage. Deeper sampling will be conducted in the underground storage tank area and the septic tank area, since these units represent the only potential subsurface sources at the site. A groundwater monitoring program is proposed in order to determine the potential impact of the CSD facility on the two (2) water bearing zones beneath the facility; the refuse fill layer and the silty sand aquifer beneath the native clay soil layer.

The investigation of surface water and sediments on the site was designed to determine if the various CSD operations have impacted the surface water drainage system at the site, and also to determine if these impacts have affected off-site surface water systems. A complete evaluation of water quality, as well as sediments within the drainage system surrounding the site, will be conducted.

2.0 SITE HISTORY

2.1 FACILITY SETTING

CSD, which currently occupies the site, reconditions open steel drums received from various industries ranging from food to paint manufacturing. The initial phase of reconditioning involves incineration; this is followed by sandblasting and repainting.

CSD has been in operation since 1951. Prior to 1951, the site was occupied by an ink manufacturer. The site occupies a total area of eight (8) acres. A site location map is provided as Figure 1 for reference.

The site is located in the industrial area of Newark Bay, east of the NJ Turnpike and north of Newark International Airport. The site is situated on refuse-filled marshland. The nearest residential area is 1.5 miles west of the site (Ironbound section of Newark). Site drainage is routed to Newark Bay via a series of man-made ditches.

Limited site information is available regarding the soils and groundwater beneath the CSD site. Previous investigations (1983) indicate that the facility is constructed on poor quality refuse fill ranging in depth from 4 to 12 feet. Filling is believed to have occurred through the 1920s and 1930s. A clay layer extends from the base of the fill to a depth of 17 to 20 feet. A red-dish-brown, fine silty sand is encountered beneath the clay layer. Groundwater was reported in the fill layer at shallow depths (1 to 2 feet) and with the sand layer at a depth of 5 to 6 feet below the surface.

As indicated in the previous investigation, this results in a perched water condition within the refuse fill material above the clay layer. Thus, the facility is prone to frequent flooding following periods of precipitation. Storm water on the site is routed to a ditch system which extends along the southern and eastern sides of the property. Storm flow is directed via the ditch to the east toward Newark Bay (Figure 2).

The surrounding area is heavily industrialized. The site was investigated by the NUS Corporation, under the Region II FIT contract, on February 6, 1986. According to the NUS report, there was no potential impact to the population associated with groundwater, surface water, or air emissions from the site, and there was no potential for direct population contact. NUS concluded that there was no potential risk due to fire or explosion; no drinking water affects, and no population risk of exposure or injury. NUS also concluded that there was a low risk of damage to flora, fauna, and the food chain associated with surface runoff from the site. NUS indicated that the labor force present (110 people) could be exposed due to spills and contaminated soil.

2.2 OWNERSHIP HISTORY

The following section was prepared by Counsel to CSD and has been included in its entirety.

IN THE MATTER OF CENTRAL
STEEL DRUM CO., ET AL.

OWNER/OPERATOR HISTORY
704 DOREMUS AVENUE
NEWARK, NEW JERSEY

The following history of the owners and/or operators of the Central Steel Drum Company site located at 704 Doremus Avenue in Newark, New Jersey is prepared and submitted in accordance with Paragraph II.B.1. of Appendix B of Attachment A to the May 9, 1190 Directive issued by the New Jersey Department of Environmental Protection to Central Steel Drum Company. Listed below in chronological order are the past owners and/or operators of the site, the period of such ownership and/or operation, the type of operation conducted on the site by each owner and/or operator, and the current or last known address of each owner and/or operator, if known.

OWNER/OPERATOR: The Land Filling & Improvement Company
PERIOD: June 14, 1902 to November 2, 1922¹
OPERATION: Landfill
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: Bayone, New Jersey

OWNER: Maynard F. Holt
PERIOD: November 2, 1922 to November 2, 1922²

¹Without an extensive and extremely detailed title search, the exact date upon which The Land Filling and Improvement Company acquired title to the real property comprising the Central Steel Drum Company site cannot be determined. It is known that The Land Filling & Improvement Company first began acquiring properties in the City of Newark on June 14, 1902, last acquired a property in Newark on December 26, 1918 and sold its properties on November 2, 1922. It is possible that the Central Steel Drum Company site is a compilation of various parcels of property which were acquired by The Land Filling & Improvement Company on various dates.

²Note that immediately upon acquiring title to the site from The Land Filling & Improvement Company, Maynard F. Holt transferred the property to International Inks, Inc.

OPERATOR: None (see footnote 2)
OPERATION: None (see footnote 2)
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: Larchmont, New York

OWNER/OPERATOR: International Inks, Inc.
PERIOD: November 2, 1922 to June 12, 1928
OPERATION: Ink Manufacturing
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: 580 Fifth Avenue, New York, New York

OWNER/OPERATOR: The International Printing Ink Corporation
PERIOD: June 12, 1928 to December 21, 1928
OPERATION: Ink Manufacturing
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: 432 New Street, Cincinnati, Ohio

OWNER/OPERATOR: International Inks, Inc.
PERIOD: December 21, 1928 to December 17, 1929
OPERATION: Ink Manufacturing
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: 580 Fifth Avenue, New York, New York

OWNER/OPERATOR: The International Printing Ink Corporation
PERIOD: December 17, 1929 to December 28, 1934
OPERATION: Ink Manufacturing
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: 432 New Street, Cincinnati, Ohio

OWNER/OPERATOR: Philip Ruxton, Inc.
PERIOD: December 28, 1934 to December 20, 1948
OPERATION: Unknown (possibly ink and/or chemical manufacturing)
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: 350 Fifth Avenue, New York, New York

OWNER/OPERATOR: Interchemical Corporation
PERIOD: December 20, 1948 to December 28, 1951
OPERATION: Unknown (possibly ink and/or chemical manufacturing)
CURRENT ADDRESS: Unknown
LAST KNOWN ADDRESS: 44 East Broad Street, Columbus, Ohio

OWNER: Bessie Baron, Ruth Greenberg, Mollie Ratner and Dorothy Greenberg
PERIOD: December 28, 1951 to March 31, 1965
CURRENT ADDRESS: Bessie Baron, 1299 Wellington Avenue, West Englewood, New Jersey; Dorothy Greenberg, 6131 La Groce Drive, Miami Beach Florida

LAST KNOWN ADDRESS: Ruth Greenberg, deceased, 5 Archbridge Lane,
Springfield, New Jersey; Molly Ratner,
deceased, 135 Ocean Parkway, Brooklyn, New
York³

OPERATOR: Central Steel Drum Company
OPERATION: Recycling of steel drums
CURRENT ADDRESS: 704 Dovemus Avenue, Newark, New Jersey

OWNER: Dore Realty Co., Inc.
PERIOD: March 31, 1965 to July 22, 1966
CURRENT ADDRESS: 30 Journal Square, Jersey City, New Jersey
OPERATOR: Denctral Steel Drum Company
OPERATION: Recycling of steel drums
CURRENT ADDRESS: 704 Doremus Avenue, Newark, New Jersey

OWNER: Bessie Baron, Abbie Greenberg,⁴ Mollie Ratner and
Dorothy Greenberg
PERIOD: July 22, 1966 to August 30, 1968
CURRENT ADDRESS: Bessie Baron, 1299 Wellington Avenue,
West Englewood, New Jersey; Abbie Greenberg,
5 Archbridge Lane, Springfield, New Jersey;
Dorothy Greenberg, 6131 La Groce Drive,
Miami Beach, Florida
LAST KNOWN ADDRESS: Mollie Ratner, deceased, 135 Ocean Parkway,
Brooklyn, New York (see footnote 3)
OPERATOR: Central Steel Drum Company
OPERATION: Recycling of steel drums
CURRENT ADDRESS: 704 Doremus Avenue, Newark, New Jersey

OWNER: Bessie Baron, Mollie Ratner and Dorothy Greenberg
PERIOD: August 30, 1968 to October 26, 1988
CURRENT ADDRESS: Bessie Baron, 1299 Wellington Avenue,
West Englewood, New Jersey; Dorothy Greenberg,
6131 La Groce Drive, Miami Beach, Florida
LAST KNOWN ADDRESS: Mollie Ratner, deceased, 135 Ocean Parkway,
Brooklyn, New York (see footnote 3)
OPERATOR: Central Steel Drum Company
OPERATION: Recycling of steel drums
CURRENT ADDRESS: 704 Doremus Avenue, Newark, New Jersey

³The Estate of Mollie Ratner was administrated by Jane Ratner Mattson and Marion Ratner Abrams as co-executrices whose current addresses are 25 Hardscrabble Hill, Chappaqua, New York and 10810 Missouri Avenue, Los Angeles, California, respectively.

⁴Abbie Greenberg was married to Ruth Greenberg and succeeded to Ruth's interests in the site upon her death.

OWNER: Bessie Baron, Dorothy Greenberg, Jane Ratner Mattson and
Marion Ratner Abrams⁵
PERIOD: October 26, 1988 to present
CURRENT ADDRESS: Bessie Baron, 1299 Wellington Avenue, West
Englewood, New Jersey; Dorothy Greenberg, 6131
La Groce Drive, Miami Beach, Florida; Jane
Ratner Mattson, 25 Hardscrabble Hill,
Chappaqua, New York; Marion Ratner Abrams,
10810 Missouri Avenue, Los Angeles, California
OPERATOR: Central Steel Drum Company
OPERATION: Recycling of steel drums
CURRENT: 704 Doremus Avenue, Newark, New Jersey

⁵Jane Ratner Mattson and Marian Ratner Abrams succeeded to the
interests of Mollie Ratner upon her death.

2.3 PRODUCT DESCRIPTION

CSD is engaged in the re-manufacture of 55-gallon steel drums. Drums are incinerated, sandblasted, and repainted as part of the process. CSD maintains an inventory of used drums at the site. Drums were formerly stored in large stacks on open soil in the plant yard area. Presently some drums are still stored in the yard but the bulk of the drums are stored in trailers to prevent direct contact of the drums with the elements. The on-site inventory of hazardous materials includes primarily paint and adhesives. A copy of the facility's current Community Right to Know Survey, which lists all hazardous substances on the facility, is provided in Attachment 1. We have also included a copy of the facility's permit application.

2.4 SITE PLANS AND AERIAL PHOTOGRAPHS

The CSD office was damaged in a fire in January 1983, as a result of the explosion of the adjacent Texaco terminal. CSD has informed us that all construction drawings and associated plant records were destroyed at that time. Therefore, there are no as-built engineering plans for the facility.

JMS has reviewed aerial photographs of the site area to establish the activities at the site. Aerial photographs from 1940, 1947, 1951, 1959, 1963, 1968, 1973, 1978, 1983, 1985 and 1991 were evaluated. The facility was present in the 1940 photograph. At that time, the facility was used as an ink production facility. There were a series of five (5) aboveground tanks present on the plant site just west of the main plant structure. Five (5) larger aboveground tanks are located just north and east of the plant on property which is no longer part of the CSD site. The plant consisted of three (3) main structures which are still present on the site today. The 1947 aerial shows very little change from the previous photograph, as does the 1951 photograph.

The 1959 aerial, the first aerial after CSD occupied the site in 1951, shows a significant change in the CSD site. It is obvious that the use has changed, and several changes and additions are readily apparent. Drums are visible in the yard area for the first time. The present drum conveyor system is present and the incinerator has been installed. The drainage system around the site was altered to reflect its current configuration. In general, the plant appears much as it does today with the exception of the office structure. There are no changes noted in the 1963 aerial.

The 1968 aerial shows a new structure on the western side of the plant. In addition, it appears that the truck fueling area is in place at this time. The only other significant change occurred following the fire in 1983. The 1985 aerial shows that the western building has been removed, the three (3) original plant buildings have been linked together and the area between roofed over. The concrete pad remaining from the western building is believed to be the current reject drum storage pad.

Due to schedule constraints in providing the RIW, we have not received the earlier Sanborne maps for the site area. However, based on previous boring data and our review of aerial photographs, the site was constructed on refuse-filled marshland. This apparently occurred well before the 1940 aerial photographs were taken. There was no significant filling activity taking place in any of the aerial photographs.

2.5 SURROUNDING WELL DATA

JMS completed a well survey of the area within a one-half mile radius of the site. Well records were obtained from the NJDEPE, Division of Water Resources (DWR). All wells located within a one-half mile radius of the CSD facility were plotted for evaluation. Well search data and related documentation is provided in Attachment 2, and the locations of the wells identified are plotted on Figure 3.

A total of sixty (60) wells were identified on a total of eight (8) sites within a one-half mile radius of the CSD facility. Fifty-one (51) of the identified wells are used for monitoring purposes; eight (8) of the wells identified are observation wells, and one is listed as a recovery well. None of the sixty (60) wells located within a one-half mile radius of the CSD facility are used for domestic purposes. As illustrated on Figure 3, two (2) monitoring wells at one facility are located approximately 1200 feet downgradient of the CSD facility. The remaining fifty-eight (58) wells are located either upgradient or sidegradient to the CSD facility. These locations are based on the reported regional groundwater flow direction toward the northwest. This flow direction was confirmed during previous investigations conducted on-site.

The results of the well search conducted for the CSD facility confirm that no potential receptors are located within a one-half mile radius of the CSD facility. Based on these findings, and the fact that the facility is located in a highly industrialized area of Newark, New Jersey, it appears that CSD does not pose a threat to any potable receptors. In addition, previous investigations conducted on-site by NUS confirmed that groundwater at CSD is relatively clean and does not pose a significant environmental threat to regional groundwater quality in the area.

The site area was previously investigated by NUS in February 1986 under contract to the USEPA. The results of their investigation are as follows:

Wells are commercially owned and are located west and north-west of the site. Wells vary from 200 to 900 feet in depth and average about 350 feet. No drinking wells are present. Nearest downgradient well is on Delancey Street in Newark, and is owned by Rutherford and Delancey Holding Corporation. The nearest well is one mile from the site. All the wells to the west of the site tap the Brunswick Aquifer which is charged by Newark Bay. Groundwater flow is away from Newark Bay because of heavy pumping conditions in Newark.

2.6 ENFORCEMENT HISTORY

The following section was prepared by Counsel to CSD and includes a summary of all known violations prior to submittal of the Remedial Investigation Plan. The following has been included in its entirety.

A880296 SBA, CDS April 7, 1988; A880297 SBA, CDS dated April 7, 1988; A880298 SBA CDS dated April 7, 1988; A880299 SBA, CDS dated April 7, 1988; A881021 MRA, CDS dated August 9, 1988.

In the Matter Central Steel Drum Co.,
etc., Log No. A881677 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty
Assessment dated October 20, 1988

This Administrative Order alleges that CSD emitted odors from its facility in violation of N.J.A.C. 7:27-11.3(d). CSD has denied these allegations and has filed a request for Administrative Hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent odors.

In the Matter of Central Steel Drum Co.,
etc., Log No. A881678 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated October 20, 1988

This Administrative Order alleges that CSD permitted illegal smoke emissions to escape from its facility. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent smoke emissions.

In the Matter of Central Steel Drum Co.,
etc., Log No. A881679 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated October 20, 1988

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A890490 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A890491 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD permitted illegal smoke emissions to escape from its facility in violation of N.J.A.C. 7:27-11.3(b). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent smoke emissions.

In the Matter of Central Steel Drum Co.,
etc., Log No. A890656 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 2, 1989

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A890657 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 2, 1989

This Administrative Order alleges that CSD emitted odors from its facility in violation of N.J.A.C. 7:27-11.3(d). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent odors.

In the Matter of Central Steel Drum Co.,
etc., Log No. A890803 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 22, 1989

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A891088 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD emitted odors from its facility in violation of N.J.A.C. 7:27-11.3(d). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent odors.

In the Matter of Central Steel Drum Co.,
etc., Log No. A892155 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated September 15, 1989

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A893011 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD permitted open burning at its site in violation of N.J.A.C. 7:27-2.3(a). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has adopted a policy and has instructed its employees against open burning. CSD does not permit the open burning of any material at its facility.

In the Matter of Central Steel Drum Co.,
etc., Log No. A893089 SBA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900029 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in

operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900030 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD permitted illegal smoke emissions to escape from its facility in violation of N.J.A.C. 7:27-11.3(b). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent smoke emissions.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900312 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting

any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900313 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD permitted open burning at its site in violation of N.J.A.C. 7:27-2.3(a). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has adopted a policy and has instructed its employees against open burning. CSD does not permit the open burning of any material at its facility.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900314 SBA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment

This Administrative Order alleges that CSD emitted odors from its facility in violation of N.J.A.C. 7:27-11.3(d). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent odors.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900518 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD permitted excessive emissions of volatile organic substances from its facility in violation of N.J.A.C. 7:27-16.5. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent excess emissions of volatile organic substances.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900519 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD operated its facility without all of its component parts in place and in operation in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900566 MRA, SBA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD permitted fugitive emissions to escape from its facility in violation of N.J.A.C. 7:27-8.3(e)2. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent equipment breakdown.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900567 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD emitted odors from its facility in violation of N.J.A.C. 7:27-11.3(d). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent odors.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900568 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD constructed, installed or altered certain incinerator equipment not approved by NJDEP in violation of N.J.A.C. 7:27-11.2(a). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has shut down and does not operate the incinerator equipment and has applied to NJDEP for approval of the incinerator equipment.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900569 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD permitted open burning at its facility in violation of N.J.A.C. 7:27-2.3(a). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has adopted a policy and has instructed its employees against the open burning of materials at its facility. CSD does not permit the open burning of any material at its facility.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900570 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD permitted visible emissions to escape from its facility contrary to the provisions of its Permit No. 81990 in violation of N.J.A.C. 7:27-8.3(e)1. CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent visible emissions.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900571 MRA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated March 29, 1990

This Administrative Order alleges that CSD constructed, installed or altered certain control apparatus or equipment without a permit in violation of N.J.A.C. 7:27-8.3(a) and (b). CSD has denied these allegations and has filed a request for administrative hearing which is currently pending with NJDEP. Without admitting any violations, CSD has applied to NJDEP for approval of the control apparatus and equipment.

In the Matter of Central Steel Drum Co.,
etc., Log No. A900934 SBA, CDS
Administrative Order and Notice of
Civil Administrative Penalty Assessment
dated May 31, 1990

This Administrative Order alleges that CSD emitted odors from its facility in violation of N.J.A.C. 7:27-5.2(a). CSD intends to file a request for administrative hearing with NJDEP with respect to this Administrative Order. Without admitting any violations, CSD has performed certain minor repairs and has applied to NJDEP for approval to improve the facility with control equipment and apparatus which will prevent odors.

2.7 HAZARDOUS SUBSTANCE STORAGE UNITS

The following provides a summary of all known areas of substance storage or discharge on the site.

Septic System

The facility discharges sanitary waste to an on-site septic tank system. There are no construction drawings or details available regarding the design of the septic system and any associated leach field. Based on inspection, the tank appears to have a capacity of 1500 to 2000 gallons. However, due to the presence of sludge, etc., a complete inspection of the tank could not be conducted. A drilling program is proposed in the area of the septic tank to provide additional information regarding this system. The septic system was installed prior to CSD's purchase of the site in 1951. The exact age of the system is unknown. There has been no analysis of the material present in the septic tank.

Drum Flip

The drum flipping operation is conducted manually within a small building located at the starting point of the incinerator chain feed system. The drums are opened and flipped onto the chain conveyor system which feeds the drums into the incinerator and subsequently the refinishing plant. The present system, which was installed in 1990, does not generate any discharge with the exception of inadvertent spillage in the drum flip pad. This material is collected daily and accumulated in drums for off-site disposal.

Previously, spillage residue which is not caught in the conveyor system, was contained by a concrete pad sloped to direct the liquid to a drain located to the south of the flipping station. The drain discharged to a concrete containment basin. The containment basin was a concrete-floored unit surrounded by a block, or concrete wall, approximately 8 - 12 inches above the surrounding grade. The block/concrete wall was originally installed to prevent storm water runoff from entering the containment unit. The containment unit drained to a concrete pit to the east which was also concrete floored. This material was historically pumped into the incinerator for processing. CSD also reported that this unit was subject to flooding during adverse weather conditions. During these periods storm water was pumped from this unit into the storm water drainage system which surrounded the site.

Fuel Storage Tanks

CSD also operates two (2) underground storage tanks on the site for fueling company vehicles. CSD operates a 4,000-gallon diesel and a 3,000-gallon gasoline tank. The tanks are believed to be 15 years old based on aerial photographs of the site. The tanks are registered with the Department in accordance with current Underground Storage Tank (UST) regulations. The integrity of the tanks has not been tested nor has any soil investigation been conducted in this area.

Reject Storage Pad

CSD receives drums for reconditioning from various suppliers. CSD inspects all drums upon arrival and segregates any non-empty drums for return to the supplier. These rejected drums are relocated to the CSD drum storage area to await pickup by the supplier. The number of rejected drums stored on the concrete pad at any time is variable. Actual storage depends on the types of drums handled on a daily basis. Drums may contain any one of the various compounds produced by CSD's client base. Typically, the drum pad is used to store paints, pesticides, and other organic materials. The drum pad is believed to be the remaining base slab of a structure which occupied this site from approximately 1968 until sometime prior to 1985.

Incinerator Ash Storage

The facility also generates incinerator ash which is considered a hazardous waste under RCRA regulations. Incinerator ash is stored in two (2) roll-off containers for off-site disposal. The containers are stored on a concrete pad in the incinerator area of the plant. The roll-off containers are supplied by the waste transporter. Roll-offs have been used to containerize the waste since 1985. Prior to 1985, the ash was stored directly on the concrete pad for loading into open top bulk trailers for off-site transport.

There is evidence of spillage of ash in the pad area. Also in the past, CSD has indicated that a small quantity of ash was utilized on-site as fill to level potholes, etc. Inspection reveals evidence of staining throughout the incinerator drum/flip area (Figure 2).

Miscellaneous Raw Material Storage

CSD also stores raw materials in the plant. CSD purchases paint, adhesives, etc., in 55-gallon drums. The raw material drums are stored inside the main plant on a concrete floor. A typical material inventory includes paint, adhesives, etc.

2.8 HAZARDOUS SUBSTANCE DISCHARGE HISTORY

A summary of all known discharges which occurred at the facility is provided in Section 2.7, along with a description of any remediation conducted. Inspection of the site reveals evidence of staining in the drum storage area, the soils adjacent to the rejected drum pad, the drum unloading area, and throughout the drum/flip incinerator area. The quality of affected soils has not been determined. Sampling is proposed to delineate these areas.

CSD removed approximately forty (40) yards of soil from the incinerator area in 1988. The soil was temporarily stockpiled for disposal characterization. The waste characterization results (Attachment 4) indicated PCB levels of approximately 330 parts per million (ppm). The soil was removed and properly disposed of as a hazardous waste. The source of this contamination is unknown, but is believed to be related to operations at the site prior to CSD.

2.9 PREVIOUS SAMPLING DATA

CSD contracted Environics in 1983 to install a series of eight (8) monitoring wells on the site. The wells were installed by CSD in response to a request by NJDEPE. The wells were sampled by Environics in 1983. The Environics' report is included as Attachment 3.

NUS conducted an investigation of the CSD site in February 1986. During their investigation, NUS collected a series of four (4) soil samples, three (3) groundwater samples and one surface water sample. The results are provided along with the NUS inspection report as Attachment 4.

JMS collected two (2) background soil samples and a composite waste characterization sample from the CSD site in August 1988. The sampling was conducted to support the removal of stockpiled soils generated during the regrading of the incinerator area. The results are provided in Attachment 4. The results indicated elevated levels of PCBs were present in the stockpiled soils and the background soils on the site. The source of this contamination is not believed to be related to CSD's operation. Stockpiled soils were removed for off-site disposal in accordance with applicable regulations.

2.10 DATA REVIEW SUMMARY

Limited site information is available regarding the soils and groundwater beneath the CSD site. Previous investigations (1983) indicate that the facility is constructed on a layer of refuse fill ranging in depth from 4 to 12 feet. A clay layer extends from the base of the fill to a depth of 17 to 20 feet. A reddish-brown, fine silty sand is encountered beneath the clay layer. Groundwater was reported in the fill layer at shallow depths (1 to 2 feet) and within the sand layer.

As indicated in the previous investigation, this results in a perched water condition within the more permeable refuse fill water above the clay layer. Thus, the facility is prone to frequent flooding following periods of precipitation. Storm water on the site is routed to a ditch system which extends along the southern and western sides of the property. Storm flow is directed via the ditch to the east, toward Newark Bay.

There is very limited data available for this site. Available results are provided in the reports by Environics (1983), NUS (1986), and JMS (1988), included as Attachment 4. The groundwater results for 1986 indicate that the perched water in the fill soils has been contaminated. Elevated concentrations of various metals and volatile organics are present within the perched water in the refuse fill layer.

NUS also collected two (2) additional groundwater samples from the groundwater wells screened within the lower sand aquifer (20 feet below the surface). The results obtained for the deeper aquifer indicated trace levels of volatile organics (<10 parts per billion [ppb]). However, the analysis also showed a concentration level for methylene chloride of 100 ppb. The results appear to indicate that the intervening clay layer between the fill soils and the deeper sand aquifer has prevented significant vertical migration of the surface contaminants. However, the data available is insufficient to support any final conclusion.

Limited sampling of surface soils has been completed by NUS and JMS. The results confirm elevated levels of metals, volatiles, base neutrals, and pesticides in the surface soils at the site. The horizontal and vertical extent of the contamination present has not been determined. One surface water sample was collected by NUS in 1986; the results confirm elevated levels of metals, base neutrals and volatile organics in the surface water drainage system. The contamination present is probably due to storm water runoff from the affected areas of the site. Additional surface water data is required to adequately assess the present condition within the storm water drainage system.

2.11 ENVIRONMENTAL EVENTS

The CSD facility was partially destroyed in a fire which spread from the adjacent Texaco terminal. According to plant personnel, a gasoline storage tank at Texaco ruptured and caught fire in January 1983. Leaking gasoline rapidly spread the fire to the CSD site. During the incident, the production facility and office were damaged. There was no subsequent testing conducted to determine the extent of the residual gasoline and other contaminants from the fire.

CSD regraded the area of the site adjacent to the incinerator in 1988 to provide a level surface for drum storage. The excavated soils were stockpiled for disposal. JMS sampled the stockpiled soils and determined that elevated levels of PCBs were present in the soil. There has been no further investigation of this area of concern.

2.12 ENVIRONMENTAL PERMITS

The following list of Environmental Permits was prepared by CSD and has been included in its entirety.

CENTRAL STEEL DRUM CO.

ID #	001	002	003	004	005
AGENCY	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION
PERMIT #				LOG 1-86-2793	LOG 1-86-2795
CERT. #	081990	013006	067438		
DATE SUBMITTED	10/10/86 & 2/9/87	STACK HAS BEEN ELIMINATED	STACK HAS BEEN ELIMINATED	5/2/86 & 10/21/86	5/2/86 & 10/21/86
DATE OF APPROVED/DENIED	3/1/88 - 1/5/87	2/7/79 APPR.	8/11/82 APPR.		
REASON FOR DENIAL	NA			STACK HAS BEEN ELIMINATED	STACK HAS BEEN ELIMINATED
EXPIRATION DATE	8/17/90	2/7/89	10/18/91		
NOTES		REPLACED BY CERT. # 094966 SEE STACK REF. N.J. #015	REPLACED BY CERT. #094966	REPLACED BY CERT. #094967 SEE STACK REF. N.J. #016	REPLACED BY CERT. #094702 SEE STACK REF. N.J. #011

ID #	006	007	008	009	010
AGENCY	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION	NJDEP AIR QUALITY DIVISION
PERMIT #	LOG 1-86-2794	LOG 1-86-3750	LOG 1-87-0501	LOG 1-87-0502	
CERT. #					069955
DATE SUBMITTED	5/2/86 & 10/21/86	10/21/86	2/12/87	2/12/87	
DATE OF APPROVED/DENIED					10/16/84 APPR.
REASON FOR DENIAL					
EXPIRATION DATE	STACK HAS BEEN ELIMINATED	STACK HAS BEEN ELIMINATED	STACK HAS BEEN ELIMINATED	STACK HAS BEEN ELIMINATED	10/16/94
NOTES	REPLACED BY CERT. #094968 SEE STACK REF. N.J. #017	REPLACED BY CERT. #094705 SEE STACK REF. N.J. #014	REPLACED BY CERT. #094704 SEE STACK REF. N.J. #013	REPLACED BY CERT. #094703 SEE STACK REF. N.J. #012	

3.0 AREAS OF ENVIRONMENTAL CONCERN

There is very limited actual sampling data available for this facility. The available data consists of sporadic soil, groundwater, and sediment data collected at various times over the past ten (10) years. A review of this data identifies various areas of potential concern which must be investigated as part of the RIW. Based on the limited data available, we have identified the following areas of concern on the site.

3.1 AREAS OF CONCERN - SOILS

The principal CSD operations which may have affected surficial soils on the site are as follows:

- o **Yard Area** - Drums are delivered to the CSD site by various clients, or by CSD personnel. Excess drums were historically stored in open stacks in the yard area of the site. Due to the volume of drums stored, virtually the entire northern half of the site has been used for this purpose. Due to the large number of drums stored, some surface spillage has occurred; resulting in the staining noted during previous regulatory inspections. Prior to 1959, there were five (5) aboveground storage tanks present on this area of the site. The nature or type of material stored is unknown.
- o **Unloading Area** - Arriving drums are unloaded onto the conveyor (Figure 2). This area may be affected due to drum handling mishaps, etc. Similarly, the conveyor transfer area may also have been affected by drum handling operations. Since the unloading area borders the conveyor system, this area will be addressed along with the conveyor system (Section 4.4)
- o **Conveyor Area** - Surficial staining has been historically reported along the conveyor line leading from the unloading area to the incinerator. This area of concern also includes the drum deheading area, where closed drum tops are removed. In addition, the drum unloading area will be addressed as part of this area of concern.

- o **Drum Flip Area** - The drums are conveyed to the head of the incinerator system. At that point, drums are overturned and any residual material enters the incinerator. Historically, drum residue was collected in a pit for processing. Incinerator ash is also removed from the same area and loaded into dumpsters for off-site disposal. The potential exists for leakage from the former collection pit, as well as spillage of incinerator ash, throughout this area (Figure 4).
- o **Reject Pad** - Drums which enter the site are checked to determine if they contain excess residuals, or are otherwise unacceptable for recycling. Rejected drums are stored on a concrete pad awaiting pickup by the generator. Runoff from the drum pad may have affected surface soils in this area (Figure 2).
- o **Septic System** - The facility discharges sanitary waste, roof runoff, and compressor condensate to an on-site septic tank (Figure 2). There are no as-built construction drawings available regarding this septic system. The tank is periodically pumped out by a septic cleaning service on an as-needed basis. The septic may represent a potential subsurface discharge point.
- o **Underground Storage Tanks** - The facility maintains a 3,000-gallon gasoline tank and a 4,000-gallon diesel fuel tank on the premises (Figure 2). These tanks are currently registered, but their integrity has not been verified.

3.2 AREAS OF CONCERN - GROUNDWATER

There are currently eight (8) groundwater monitoring wells located on the CSD site (Figure 2). The wells were installed in 1983 by Environics (Attachment 3) under contract to CSD. The wells were required by NJDEPE-DWR in 1983. Three (3) wells were sampled by NUS on February 5, 1986. A copy of the Environics Well Installation Report is provided as Attachment 3.

Previous groundwater results indicate that the perched water present in the refuse fill beneath the site has been contaminated. Groundwater present in the deeper sand zone has only been sampled periodically, but does not appear to have been significantly affected by site operations.

3.3 AREAS OF CONCERN - SEDIMENT/SURFACE WATER

There is virtually no previous data regarding the quality of the surface water and sediment within the site drainage system. NUS collected one water sample during their investigation of the site in February 1986, which indicated elevated levels of volatiles and base neutrals in the stagnant water within the facility drainage ditch.

Based on topographic maps of the area, surface runoff appears to be directed toward the east from the site into a drainage channel system which eventually discharges to Newark Bay. The on-site drainage system consists of a ditch located along the eastern and southern sides of the property (Figure 2). Based on a review of the data available, there does not appear to have been any testing of the sediment in the ditch system to date. The site storm water system is regarded as an area of concern.

4.0 SOIL INVESTIGATION PLAN

A series of eight (8) well borings were installed on the site in 1984, at the locations indicated in Figure 2. The boring logs indicate the presence of a refuse fill layer which varies in depth from 4 feet on the western portion of the site, to 12 feet on the eastern portion. The fill appears to be oil-stained in several areas and consists of soil, ash, cobbles and debris. The general quality of the fill soil present has not been investigated; however, similar fill is present throughout the former marshland area which extends well beyond the CSD site boundaries. The fill is underlain by a layer of stiff native clay soils.

The native clay soils contained roots and other decayed vegetation, indicating that the clay surface represents the original meadow-mat surface in this area of Newark. Below the clay, the borings encountered a silty sand layer which extends to an undetermined depth. The boring logs indicate that water is present within the fill layer and within the sand layer. However, there was no water encountered in the clay zone.

4.1 GENERAL BORING AND SAMPLING PROCEDURES

There are six (6) areas of potentially affected soils on the CSD site as indicated in Section 3.1. The areas include the following: Yard Area, Reject Pad, Conveyor System Area, Drum Flip Area, Septic Tank, and Underground Storage Tank Area. The first four (4) areas are surficial in nature; therefore, potential impacts should decrease with depth. The last two (2) areas represent the only potential subsurface contaminant sources on the site. The contaminants of concern on this site based on previous results and site history are Volatile Organics (VO), Base Neutrals (BN), Poly-Chlorinated Biphenols (PCB), Pesticides (PE), Priority Metals (PM), and Petroleum Hydrocar-

bons (PHC). Therefore, at least one sample per boring will be analyzed for the EPA listed Priority Pollutants. A summary of sample analysis parameters for each area of concern is provided on Table 1.

The soil sampling program will include the drilling of a series of soil borings within, and around, each area of concern. All borings will be installed by a licensed driller in accordance with applicable regulations. All sampling will be completed in accordance with the QA/QC Plan provided in Section 7.0 and procedures specified in Attachment 5. The anticipated boring locations are discussed in the following sections. In general, the drilling procedure will correspond to the TRSR guidelines as follows:

- o Each boring will be continuously scanned during drilling using a calibrated PID unit;
- o Surface sampling will be completed in accordance with TRSR guidelines. Specifically, non-volatile samples will be collected from the 0 to 6-inch soil increment, while Volatiles will be collected from the 0 to 6-inch increment exhibiting the highest PID response from the uppermost 24 inches of the soil column. The boring will then be advanced to the base of the fill layer and a second sample will be collected from the uppermost 0 to 6-inch native soil increment;
- o Each sample will be logged and scanned using a fully calibrated Hnu photoionization detector; and,
- o JMS will complete a boring log for each boring installed; soils will be classified according to the Unified System.

Soil samples will be selected for analysis based on the area of concern, the physical appearance of the samples, and PID readings in accordance with the TRSR guidelines. All samples will be analyzed for PP pollutants unless specified otherwise in the respective area specific sections which follow. This approach will be used for all sampling conducted on the site as part of the RIW and, therefore, is not repeated in the specific area of concern discussions which follow.

4.2 YARD AREA

The yard area will be sampled in accordance with the TRSR guidelines for miscellaneous potentially contaminated areas. Surficial samples will be collected from selected locations biased toward areas of staining or other indications of contamination. Sample density will be greater than the recommended TRSR requirements of one sample per every two (2) acres. We are proposing to collect four (4) yard samples for the 4-acre yard as shown on Figure 5. Collected samples will be analyzed for PP parameters.

4.3 REJECT PAD AREA

The reject pad area will be sampled in accordance with the TRSR requirements. A series of four (4) borings will be installed as shown on Figure 5. In addition, the pad surface will be inspected for evidence of cracking or deterioration. If any deterioration is noted, an additional sample will be collected from beneath the pad biased toward the deteriorated or cracked area. Samples will be collected at the surface and from the 0 to 6-inch native soil horizon.

4.4 CONVEYOR AREA

The facility uses a system of conveyors to move drums throughout the plant. The conveyor area includes the unloading area and the deheading area as discussed in Section 3. Various legs of the conveyor move drums from the unloading area and the various yard storage areas, to the deheading station and on to the incinerator. The drum conveyor layout is shown on Figure 2. The total length of the conveyor and its various legs is approximately 600 feet.

A total of twenty (20) samples will be collected along the conveyor system to evaluate soil quality in the vicinity of this unit. Soil borings will be located at approximate 30-foot intervals along the conveyor units, biased towards stained areas, etc. The boring spacing in the vicinity of the deheading station and the unloading area will be increased to allow biasing towards handling areas. The approximate locations of the borings is shown on Figure 5; however, actual locations will be field determined. Borings will be sampled at the surface and at the base of the refuse fill layer in accordance with the standard surface boring plan (Section 4.1).

4.5 DRUM FLIP AREA

The drum flip area includes the former sludge containment area, the ash spill area, and the general incinerator yard area. JMS proposes a series of four (4) borings in the vicinity of the former sludge containment pit as shown on Figure 6. An additional four (4) borings will be installed in the incinerator ash bin area as shown on Figure 6. Two (2) additional borings will be placed on the north side of the incinerator conveyor in the ash spill area to evaluate the effect of ash spillage in this area. Samples will be collected from the surface, as well as at the base of the refuse fill layer.

4.6 SEPTIC AREA

As discussed previously, there are no as-built drawings available for the septic system. The aerial photographs suggest that the septic field (if any) would be located beneath the facility office structure. Therefore, we propose to probe the base of the septic tank to determine if the unit has a base. If not, we will sample the unit as a seepage pit in accordance with TRSR guidelines. Specifically, we will obtain a sample from the soil 0 to 6 inches below the base of the unit, and will install a soil boring as close to the unit as possible. The boring location proposed is provided on Figure 5.

If the septic unit has a base (concrete or steel), a test pit will be installed along the eastern and southern side of the office structure. The testpit will be excavated to a depth of five (5) feet below the surface in order to determine if a leach field system is present. If present, the field will be sampled in accordance with the TRSR guidelines. If no field is identified, a series of four (4) borings will be installed as shown on Figure 5. Samples will be collected at the depth of the base of the septic tank and at the base of the fill layer. The objective is to determine if there is any significant impact associated from the septic unit.

4.7 UNDERGROUND STORAGE TANK AREA

CSD operates a 3,000-gallon gasoline tank and a 4,000-gallon diesel tank at their facility. The tanks have been registered but have not been tested for leakage. A series of six (6) borings will be installed around each of the underground storage tanks on the site as shown on Figure 5. Six (6) samples are required for each tank in accordance with the TRSR guidelines. The samples will be collected from the 0 to 6-inch soil increment above the saturation level, if the saturation level is above the tank base depth, as expected. If saturation is not encountered, the samples will be collected from the 0 to 6-inch soil horizon just below the tank base depth. The tank base depth will be determined by sounding for both tank units.

The samples collected in the vicinity of the gasoline tank will be analyzed for Volatile Organics plus a search for the first ten (10) mass spectrometer peaks (VO+10) and lead. The samples collected in the vicinity of the diesel tank will be analyzed for PHC, and the sample with the highest PHC level will also be analyzed for VO+10.

5.0 GROUNDWATER INVESTIGATION

5.1 WELL INSPECTION PROCEDURE

There are currently eight (8) groundwater monitoring wells located on the CSD site (Figure 2). The wells were installed in 1983 by Environics (Attachment 3) under contract to CSD. The wells were required by NJDEPE-DWR in 1983. Three (3) wells were sampled by NUS on February 5, 1986. A copy of the Environics Well Installation Report is provided as Attachment 3.

Each of the wells will be inspected to determine if they are presently usable, or if damage has occurred. The wells will be sounded to determine if the open well depths correspond nominally to the installed depths as reported in the Environics report. If the well depths correspond to the approximate initial installation depth, and there is no apparent surface damage to the well, the current wells will be used for sampling.

Any wells determined to be unusable will be properly abandoned in accordance with the Department's well abandonment guidelines. A supplemental well installation and location work plan will be submitted to the Department prior to the replacement of any site wells. If needed, the supplemental plan will include a detailed specification of the well installation procedure, as well as appropriate well specifications. All wells proposed will conform to the Department's specifications for the installation of monitoring wells in unconsolidated formations.

5.2 GROUNDWATER SAMPLING

Following well replacement (if needed), a complete round of groundwater samples will be collected, including all four (4) shallow wells and all four (4) deep wells. Sampling will be conducted using disposable bailers. A separate bailer will be dedicated for use in sampling each well. Specific well sampling procedures are provided in Attachment 5.

Static water levels will be measured using an electronic water level detector prior to purging. Following water level measurement, three (3) volumes of well water will be removed using a submersible pump in accordance with current field program guidelines.

Following purging, the water level will be allowed to return to the approximate pre-purge level prior to sampling. Sampling will be conducted using dedicated disposable bailers. The water samples will be placed in laboratory-certified clean sampling jars and placed in a field cooler at 4°C (wet ice). Chain-of-custody control forms will be completed and each sample jar will be labeled for identification. The sampling team leader will document sampling time, date and other pertinent information in the field notebook and on the sample labels. All groundwater samples will be analyzed for PP and PHC.

5.3 GROUNDWATER FLOW AND AQUIFER CHARACTERISTICS

5.3.1 Hydrogeologic Aquifer Characteristics

Rising and falling head tests will be conducted on each of the eight (8) wells presently on-site. The objective will be to determine the basic hydrogeologic parameters associated with the refuse fill layer and the deeper sand aquifer. The individual well slug and drawdown tests will provide a measure of the soil and fill permeability, and hydraulic conductivity. In addition, the test results will be used, along with the groundwater flow data, to determine the average groundwater velocity in the fill and soil units beneath the site.

The slug and drawdown test will be conducted using an inert slug in accordance with standard procedures acceptable to the Department. Water level measurements during the slug test will be obtained using manual and electronic recorders to ensure the validity of the results obtained. All results will be provided to the Department for review, along with our analysis of the results obtained.

5.3.2 Groundwater Flow Monitoring

As indicated previously, groundwater flow may be tidally influenced in the site area due to CSD's proximity to Newark Bay. In order to determine the actual tidal influence beneath the site, continuous water level monitoring will be required. Four (4) pressure activated transducers will be mounted in the shallow wells for a period of two (2) weeks. The recording system will be set to record water levels at one-minute intervals over the period. This operation will be repeated a second time for the four (4) deep wells in order to determine if there is any significant difference in flow within the deeper sand aquifer.

Following completion of the deep well water level monitoring cycle, two (2) of the recorders will be removed from the deep wells and placed into the two (2) shallow wells adjacent to the remaining deep well recorders. Again, water levels will be recorded at one-minute intervals over a two-week period. The re-

sults will be used along the tidal influence curve within each water-bearing zone to correlate these curves in time. The tidal curves will also be correlated to tidal periods within Newark Bay.

A series of groundwater surface contour maps will be prepared to reflect flow conditions at critical points in the tidal response curve. The critical points selected will include high and low tidal conditions, but more importantly at periods within minimal tidal influence. The periods of minimal influence will provide a clear indication of the net flow direction beneath the site.

In order to verify recorder linearity, water levels will be measured manually at various times during the water level measurement program. In addition, water levels will be manually measured prior to removal of the transducers from the respective wells. Manual measurements will be used to supplement and verify the recorded water levels.

6.0 SURFACE WATER AND SEDIMENT INVESTIGATION

6.1 BACKGROUND INFORMATION

There is virtually no previous data regarding the quality of the surface water and sediment within the site drainage system. NUS collected one water sample during their investigation of the site in February 1986, which indicated elevated levels of volatiles and base neutrals in the stagnant water within the facility drainage ditch.

Based on topographic maps of the area, surface runoff appears to be directed toward the south, from the site, into a drainage channel system which directs the flow toward the east to Newark Bay. Based on the available aerial photographs, it appears that the drainage channel servicing the site was re-routed to its present location at about the time that CSD occupied the site (1951). A complete review of the surface water discharge system will be required to completely determine the course of the discharge channel.

The on-site drainage system consists of a ditch located along the eastern and southern sides of the property (Figure 2). The ditch on the eastern portion of the site is virtually silted-in and presently appears as a swale with a very gentle slope toward the south. The pitch of the entire drainage system is very gentle; therefore, siltation has occurred at the points where surface water entered the system. This has resulted in the gradual silting in of the south-flowing channel on the eastern side of the site. Based on a review of the data available, there does not appear to have been any testing of the sediment in the ditch system to date.

6.2 SAMPLING PROGRAM

A series of surface water and sediment samples will be collected along the course of the on-site ditch system in accordance with TRSR guidelines. The objective will be to determine if CSD operations have impacted the water or sediment quality in the channel. Based on our inspection of the site, it appears that during precipitation events, surface water flows from the incinerator and drum flip area eastward to the drainage channel on the eastern side of the property. Water flows from there southward to the main drainage channel located on the southern side of the site. Flow is then directed eastward toward Newark Bay. This flow pattern probably reverses during periods of storm-induced high tides, etc., but may also be reversed during normal tidal events.

A series of five (5) sampling locations (Figure 5) have been selected along the ditch area. If possible, both surface water and sediment will be sampled at each location; however, there is generally no water present in the ditch along the eastern side of the site. Therefore, water sampling along the eastern ditch may not be feasible.

Surface water sampling will be completed using a stainless steel pond sampler in accordance with the procedures specified in Attachment 5. During sampling, precaution will be taken to prevent unnecessary disturbance of the underlying sediments. Water sampling will proceed from the furthest downgradient pocket to prevent any disturbance of the sampling location prior to sediment sampling.

Sediment samples will be collected using stainless steel hand augers. Sediment samples will be collected from a depth of 1.0 to 1.5 feet below the uppermost sediment surface. However, if non-sediment soils are encountered, the sample depth will be modified to correspond to the deepest 6-inch layer of sediment encountered. Sediment sampling will be conducted in accordance with the procedures specified in Attachment 5. All samples will be analyzed for Priority Pollutants and Petroleum Hydrocarbons. In addition, sediment samples will also be analyzed for total organic carbon, PH, and particle size.

7.0 QUALITY ASSURANCE/QUALITY CONTROL

All samples will be accompanied by properly completed chain-of-custody documents at all times. Samples will be stored in field coolers for transport directly to the laboratory (if possible) or to JMS offices in Somerville, New Jersey. Chain-of-custody control will include documentation of each transfer of control of the sample from the time of sample collection through laboratory analysis.

All samples will be analyzed by Accutest Laboratories of Dayton, New Jersey. Accutest is a New Jersey-certified laboratory (#12129) capable of conducting the required analysis. Each sample collected will be analyzed for the complete list of USEPA Priority Pollutant compounds; QA/QC documentation will be provided as outlined in Attachment 5.

7.1 SAMPLE COLLECTION

During the implementation of the sampling and analytical program, the QA/QC procedures specified in the NJDEPE Field Sampling Procedures Manual (May 1992) will be strictly followed. The JMS detailed sampling procedures and field equipment decontamination procedures are presented in Attachment 5. All analyses will be conducted by a NJDEPE-certified laboratory, in accordance with procedures specified in the Proposed New Rule Technical Requirements for Site Remediation (N.J.A.C. 7:26E).

During the implementation of the RIW drilling activities, a JMS geologist will maintain logs of all subsurface material encountered, and will be responsible for sample collection. Between sampling locations, all sampling equipment will be thoroughly decontaminated in order to minimize potential cross-contamination. A trip blank will be provided by the laboratory for additional QA/QC analysis. Field blank samples will be collected in the field, in accordance with NJDEPE guidelines, and analyzed for the target parameters.

Samples will be collected using stainless steel equipment in accordance with standard field procedures. All samples collected for laboratory analysis will be stored in amber glass jars and wide-mouth septum vials with teflon-lined screw caps, and placed in a sample cooler at 4°C (wet ice) for transportation to the laboratory. Standard chain-of-custody control procedures will be observed during all sampling operations. Copies of the appropriate chain-of-custody control forms will be provided with the laboratory results reports. Detailed sampling procedures are provided in Attachment 5.

7.2 LABORATORY ANALYSES

All samples collected by JMS will be analyzed by a New Jersey-certified laboratory capable of conducting the required analysis. The samples collected for laboratory analysis will be analyzed for EPA Priority Pollutants and Petroleum Hydrocarbons unless other analysis is specified in the area specific sections of this plan.

Water samples will be analyzed for total petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples will be prepared for analysis by soxhlet extraction consistent with the March 1990 NJDEPE Remedial Investigation Guide Appendix A, and analyzed by the USEPA Method 418.1.

Water samples will be analyzed for volatile organics by purge and trap gas chromatography/mass spectrometry (GC/MS) as specified in Method 624. Solid samples will be analyzed for volatile organics as specified in the USEPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8240.

Water samples will be analyzed for base neutral extractable organics by GC/MS in accordance with USEPA Method 625. Solids will be analyzed for base neutral extractable organics as specified in the USEPA publication Test Methods For Evaluating Solid Waste (SW-846, 3rd Edition) Method 8270.

Non-target analysis, for both the VO and BN fractions, will be conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard).

Water samples for PM13 analysis are digested and analyzed using USEPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the USEPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050 "Acid Digestion of Soil, Sediments, and Sludges".

7.3 PROJECT PERSONNEL RESUMES

The project will be managed and directed by JMS. The resumes of supervisory and management personnel are included in Attachment 6. Additional field personnel will be assigned to the project on an as-needed basis from our staff. All individuals assigned to the field program will be required to have completed their medical monitoring physicals in accordance with JMS procedures, and must have completed at least 40 hours of health and safety training.

8.0 SCHEDULE AND COST ESTIMATE

The RIW Program schedule is provided in Figure 7. As shown, the schedule includes significant milestones, project reports, etc. The anticipated schedule for completion of the RIW is eighteen (18) months unless well replacement is required. If well replacement is required, program completion will require twenty (20) months.

The estimated cost of implementing the RIW plan as outlined is detailed on Table 2. As indicated, the total cost is anticipated to range between \$325,000 and \$330,000. This represents a reasonable estimate; actual costs will depend on the nature and extent of contamination identified in the various areas of concern on the site. This estimate includes all professional fees, laboratory fees, and drilling expenses.

9.0 HEALTH AND SAFETY PLAN

9.1 BACKGROUND

The CSD facility is located on Doremus Avenue in a heavily industrialized section of Newark, New Jersey. The facility is engaged in the business of drum recycling. Used drums are incinerated, cleaned and repainted for reuse.

The objective of the RIW program is to characterize the nature and approximate extent of on-site contamination associated with past and present site operations. The program will include the drilling of approximately thirty-three (33) soil borings to a depth of approximately 15 feet. Soil sampling will be conducted within each boring at the surface and at the base of the refuse fill layer. Soil samples will be collected for laboratory analysis based on the specifications set forth in the RIW. Boring logs will be prepared for each soil boring installed. Soil borings will be installed and sealed by a licensed driller in accordance with applicable guidelines.

The program also includes the sampling of eight (8) on-site groundwater monitoring wells following a thorough evaluation of the structural integrity of each well. Sampling will require pre-sample purging, etc., as specified in the JMS groundwater sampling procedure. Following sampling, continuous water level recorders will be installed in the site wells to record any tidal effects present.

Surface water and sediment sampling (five sample points) will also be completed during this phase of the project. Surface water and sediment sampling will take place outside the site fence line. Sampling will be conducted using pond samplers and hand augers.

9.2 POTENTIAL EXPOSURE RISKS

The available test results are provided in Attachment 4. The results confirm that soils in the incinerator area and other site areas have been contaminated. Therefore, site personnel should avoid any direct contact with the soils, pooled liquids or sludge. Vapor monitoring will be required on a continuous basis in all work areas.

The available data indicates that health risk is primarily associated with direct contact with affected soils, ash or sludge. This material exhibits significantly elevated levels of heavy metals, volatile organic compounds, and pesticides. Potential exposure pathways also include dust inhalation and vapor inhalation, in addition to direct contact.

9.3 SCOPE OF WORK

JMS personnel will be on-site to supervise drilling operations and conduct all sampling required. Specifically, JMS will complete the following items:

- o Ensure that utility mark-outs have been completed prior to the start of any field work;
- o Supervise drilling operations, prepare boring logs, verify drilling, sealing, and abandonment permits as appropriate; and,
- o Conduct all soil, groundwater, surface water, sediment and air quality sampling as required by the approved work plan.

CSD personnel will be required to remove stored drums or other material to provide access to all proposed sampling areas.

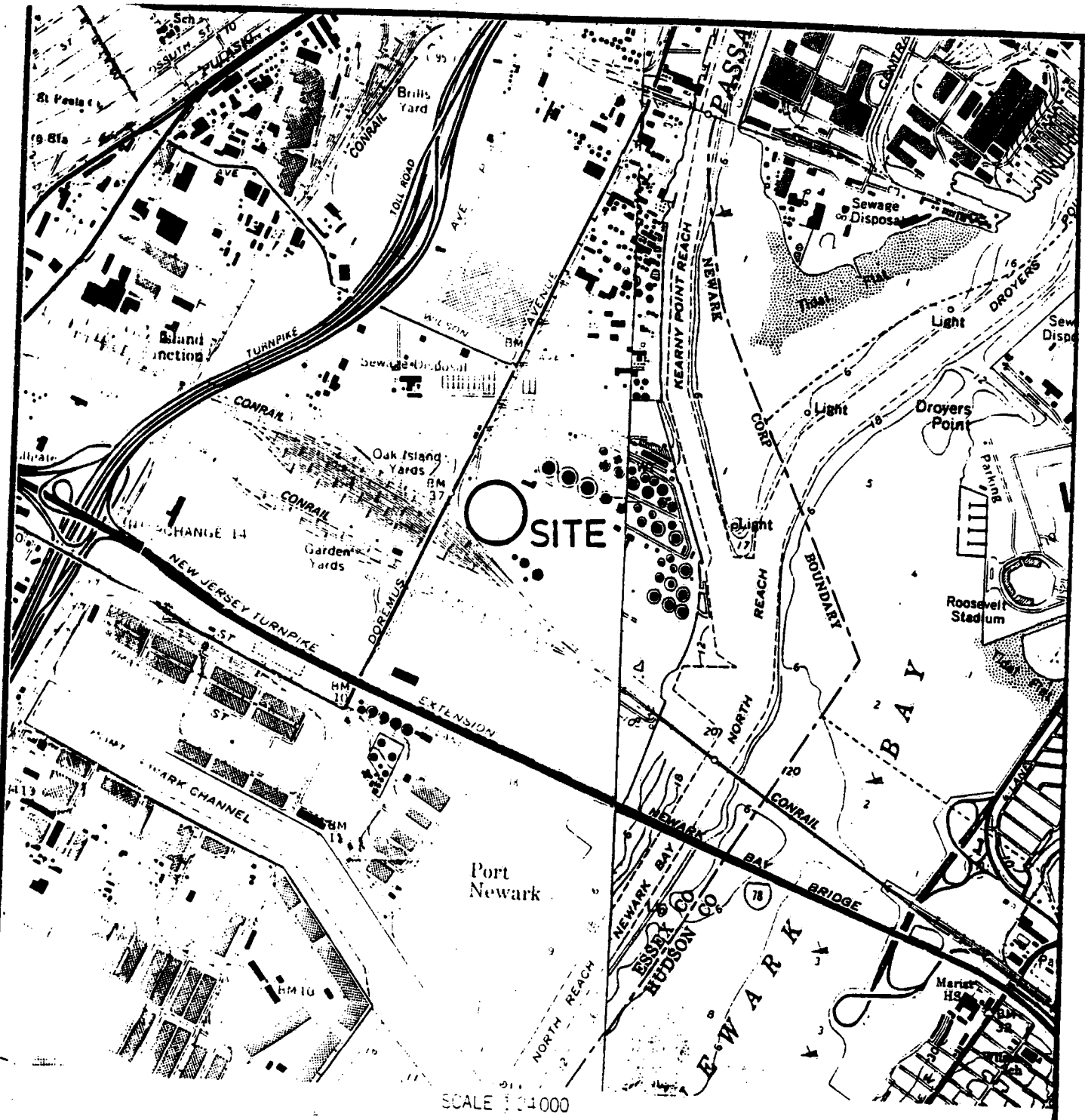
9.4 GENERAL WORK REQUIREMENTS

Based on the results of the investigative activities conducted to date at the CSD site, it is currently anticipated that the remedial activities to be implemented at this facility will require "Level D" personal protective equipment. Continuous air-monitoring will be conducted using a PID; the level of personal protection will be upgraded, if deemed necessary, based on the PID response.

All personnel engaged in the remedial activities at this facility will be required to comply with the following requirements:

1. Have satisfied the medical surveillance requirements of the Superfund Amendment Reauthorization Act (SARA) of 1986 as listed in 29 CFR Part 1910.120;
2. Have completed an appropriate safety training course (OSHA 1910.120);
3. Have three (3) days of prior fieldwork experience under a qualified supervisor;

4. Have reviewed the HASP and are fully aware of the requirements in the Plan;
5. Dressed out in accordance with the task-specific plans;
6. No eating, drinking, smoking, or gum/tobacco chewing is allowed in the work zone;
7. Individuals will shower, as soon as possible, after leaving the job site at the end of the day; and,
8. Contact with contaminated surfaces or surfaces suspected of being contaminated should be avoided while the worker is unprotected. In the event that protective clothing is ripped or torn, work is to stop and the protective clothing removed and replaced as soon as possible. In the event of direct skin contact, the affected area is to be washed immediately with soap and water.



SOURCE:

U.S.G.S. 7.5
MINUTE SERIES
ELIZABETH AND
JERSEY CITY
QUADRANGLES - NJ

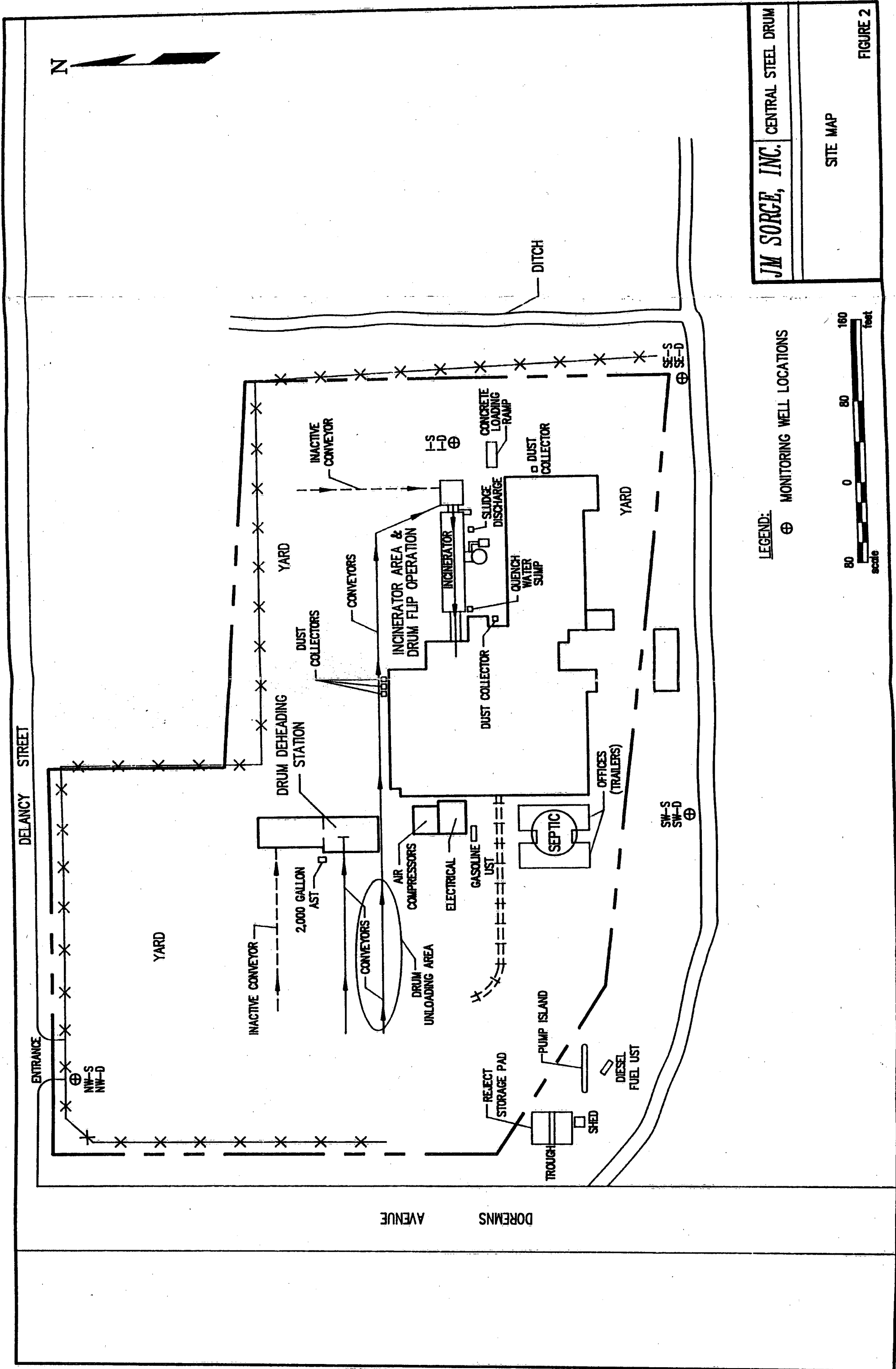
CONTOUR INTERVAL 10 FEET

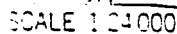
UTM GRID AND 1981 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

JM SORGE, INC.	CENTRAL STEEL DRUM
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SITE LOCATION MAP

FIGURE 1





1000	1500	2000	3000	4000	5000	6000	7000 FEET
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PILOMETED

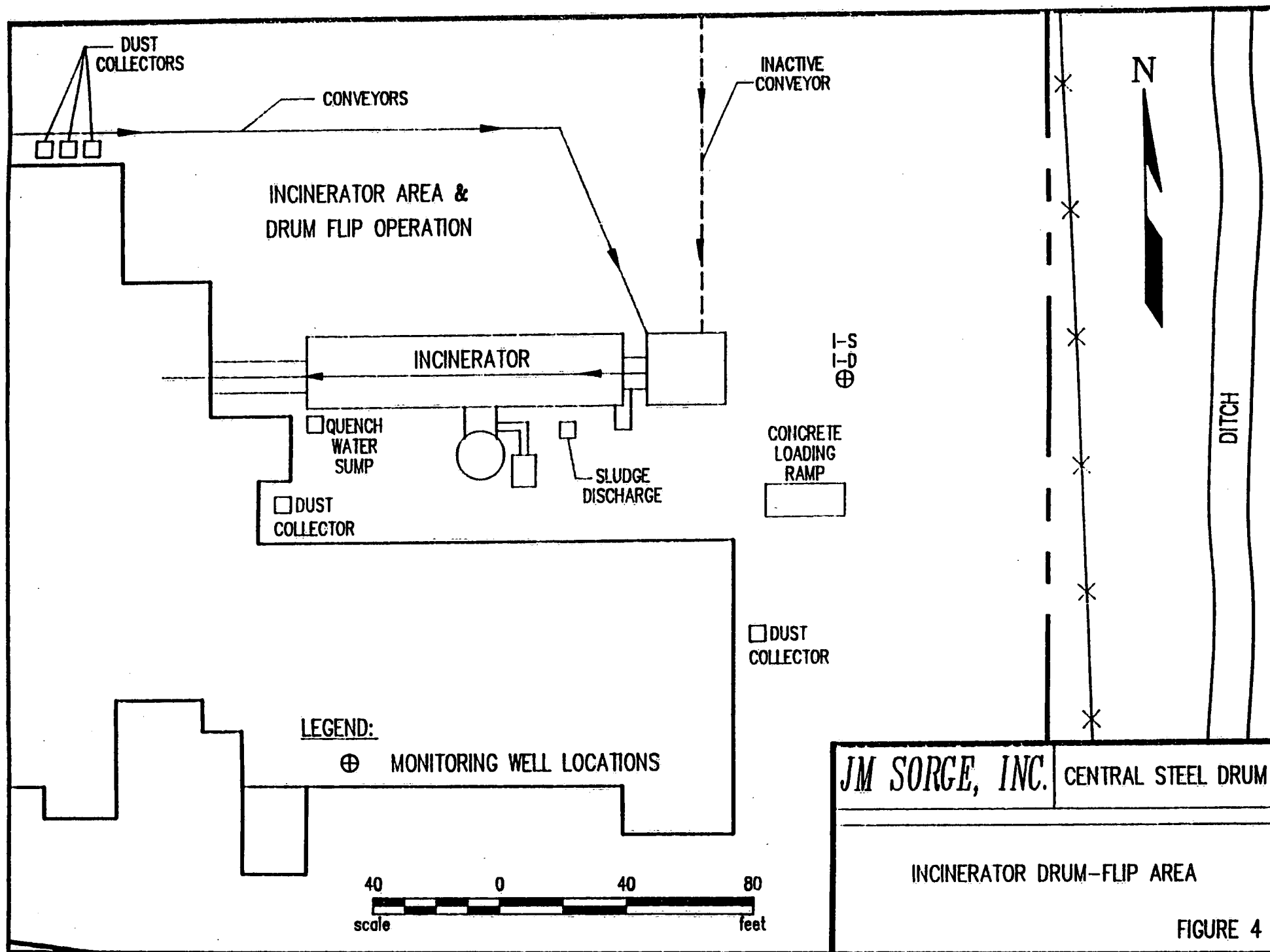
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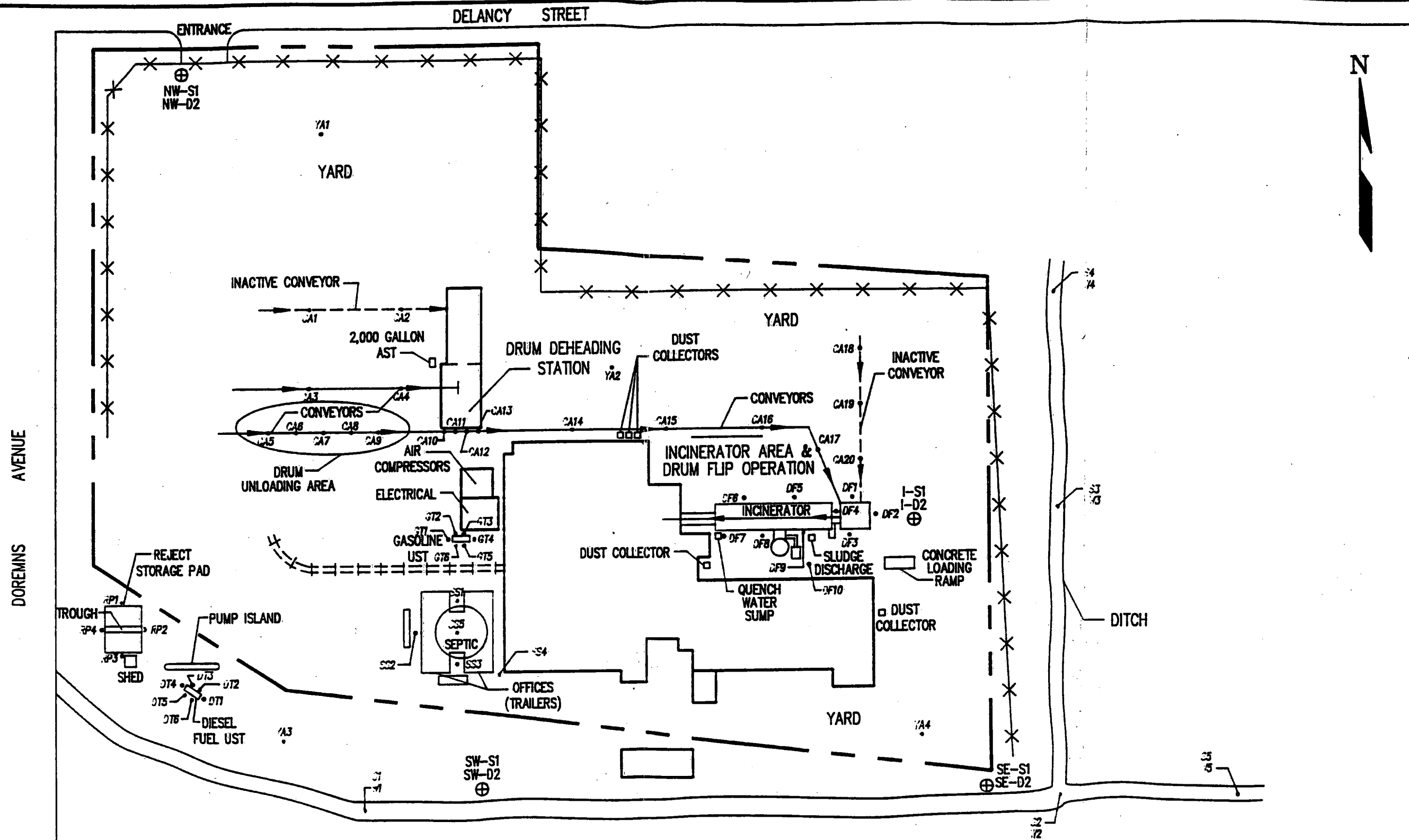
CENTRAL STEEL DRUM

WELL SITE LOCATION

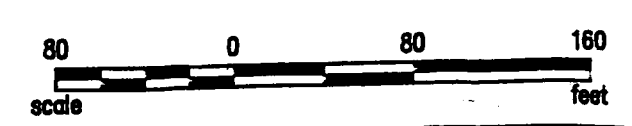
1/2 MILE RADIUS WELL SEARCH

FIGURE 3





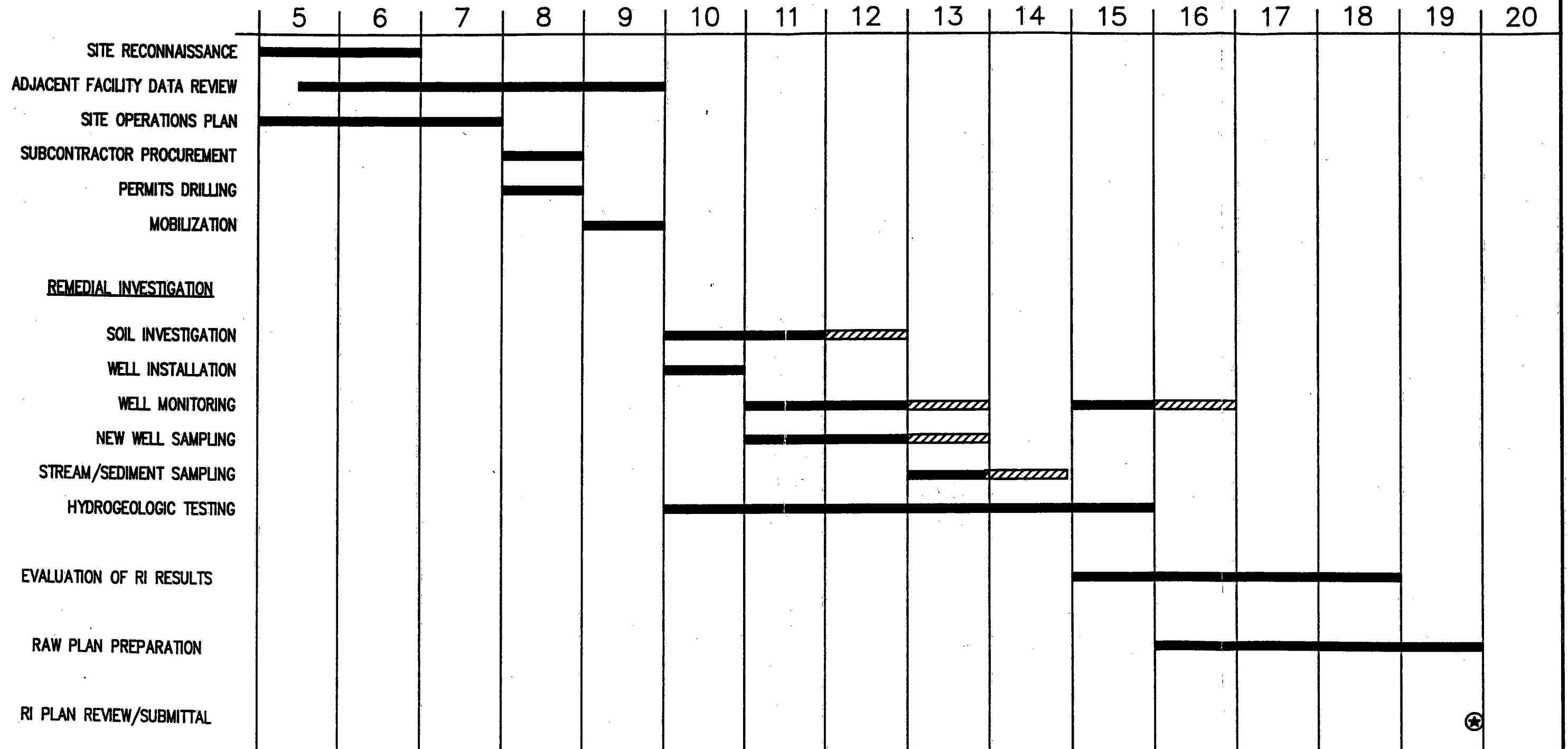
LEGEND:
 ⊕ MONITORING WELL LOCATIONS



JM SORGE, INC.	CENTRAL STEEL DRUM
SAMPLE LOCATION MAP	
FIGURE 5	

FIGURE 7 REMEDIAL INVESTIGATION SCHEDULE CENTRAL STEEL DRUM

MONTHS FOLLOWING BANKRUPTCY COURT APPROVAL



LEGEND:

———— CONTINUOUS TASK

//// LAB ANALYSIS

★ REPORT SUBMITTAL

TABLE 1
CENTRAL STEEL DRUM COMPANY
SAMPLING ANALYSIS SUMMARY

Areas of Environmental Concern	Sample Name & Number	Analytical Parameters						
		PP	VO+10	Pb	PHC	pH	PS	TOC
SOILS: Yard Area	YA-1A	X						
	YA-1B	X						
	YA-2A	X						
	YA-2B	X						
	YA-3A	X						
	YA-3B	X						
	YA-4A	X						
	YA-4B	X						
Reject Pad	RP-1A	X						
	RP-1B	X						
	RP-2A	X						
	RP-2B	X						
	RP-3A	X						
	RP-3B	X						
	RP-4A	X						
	RP-4B	X						
Conveyor Area	CA-1A	X						
	CA-1B	X						
	CA-2A	X						
	CA-2B	X						
	CA-3A	X						
	CA-3B	X						
	CA-4A	X						
	CA-4B	X						
	CA-5A	X						
	CA-5B	X						
	CA-6A	X						
	CA-6B	X						
	CA-7A	X						
	CA-7B	X						
	CA-8A	X						
	CA-8B	X						
	CA-9A	X						
	CA-9B	X						
	CA-10A	X						

NOTES:

PP - EPA Priority pollutants

VO+10 - Volatile Organic Compounds with a Forward Library Search

Pb - Lead

PHC - Total Petroleum Hydrocarbons

PS - Particle Size

TOC - Total Organic Carbons

(a) - VO+10 analysis will be conducted on 25% of samples in which
Total PHC concentrations exceed 1000 parts per million

TABLE 1 cont'd
CENTRAL STEEL DRUM COMPANY
SAMPLING ANALYSIS SUMMARY

Areas of Environmental Concern	Sample Name & Number	Analytical Parameters						
		PP	VO+10	Pb	PHC	pH	PS	TOC
	CA-10B	X						
	CA-11A	X						
	CA-11B	X						
	CA-12A	X						
	CA-12B	X						
	CA-13A	X						
	CA-13B	X						
	CA-14A	X						
	CA-14B	X						
	CA-15A	X						
	CA-15B	X						
	CA-16A	X						
	CA-16B	X						
	CA-17A	X						
	CA-17B	X						
	CA-18A	X						
	CA-18B	X						
	CA-19A	X						
	CA-19B	X						
	CA-20A	X						
	CA-20B	X						
Drum Flip Area	DF-1A	X						
	DF-1B	X						
	DF-2A	X						
	DF-2B	X						
	DF-3A	X						
	DF-3B	X						
	DF-4A	X						
	DF-4B	X						
	DF-5A	X						
	DF-5B	X						
	DF-6A	X						
	DF-6B	X						
	DF-7A	X						
	DF-7B	X						
	DF-8A	X						
	DF-8B	X						
	DF-9A	X						
	DF-9B	X						
	DF-10A	X						
	DF-10B	X						

NOTES:

PP - EPA Priority pollutants

VO+10 - Volatile Organic Compounds with a Forward Library Search

Pb - Lead

PHC - Total Petroleum Hydrocarbons

PS - Particle Size

TOC - Total Organic Carbons

(a) - VO+10 analysis will be conducted on 25% of samples in which
Total PHC concentrations exceed 1000 parts per million

TABLE 1 cont'd
CENTRAL STEEL DRUM COMPANY
SAMPLING ANALYSIS SUMMARY

Areas of Environmental Concern	Sample Name & Number	Analytical Parameters						
		PP	VO+10	Pb	PHC	pH	PS	TOC
Septic System	SS-1	X						
	SS-2	X						
	SS-3	X						
	SS-4	X						
UNDERGROUND STORAGE TANKS: Gasoline Tank	GT-1		X	X				
	GT-2		X	X				
	GT-3		X	X				
	GT-4		X	X				
	GT-5		X	X				
	GT-6		X	X				
Diesel Tank	DT-1				X(a)			
	DT-2				X(a)			
	DT-3				X(a)			
	DT-4				X(a)			
	DT-5				X(a)			
	DT-6				X(a)			
GROUNDWATER:	NW-S1	X						
	NW-D2	X						
	I-S1	X						
	I-D2	X						
	SW-S1	X						
	SW-D2	X						
	SE-S1	X						
	SE-D2	X						
SURFACE WATER/ SEDIMENT:	W-1	X						
	W-2	X						
	W-3	X						
	W-4	X						
	W-5	X						
	S-1	X				X	X	X
	S-2	X				X	X	X
	S-3	X				X	X	X
	S-4	X				X	X	X
	S-5	X				X	X	X

NOTES:

PP - EPA Priority pollutants

VO+10 - Volatile Organic Compounds with a Forward Library Search

Pb - Lead

PHC - Total Petroleum Hydrocarbons

PS - Particle Size

TOC - Total Organic Carbons

(a) - VO+10 analysis will be conducted on 25% of samples in which
Total PHC concentrations exceed 1000 parts per million

TABLE 2
RIW COST ESTIMATE

TASK	DESCRIPTION	COST
<u>Site Evaluation</u>		
	Compile and review adjacent facility data	\$ 7,500
	Detailed inspection of site drainage system	2,000
	Septic System explorations	1,500
	Storm drainage system evaluation and mapping	\$ 1,500
	Subtotal Site Evaluation	\$ 12,500
<u>Field Investigation and Sampling</u>		
	Well installation, soil borings & testpits	\$ 22,500
	Sampling and supervision of field activities	12,500
	Program coordination and supervision	\$ 4,500
	Field Investigation and Sampling	\$ 39,500
<u>laboratory Analysis</u>		
	Priority Pollutants (120)	\$180,000
	Other samples (30)	\$ 19,500
	Laboratory Analysis	\$199,500
<u>Groundwater Investigation</u>		
	Tidal effects on water levels - recorders, etc.	\$ 4,500
	Hydrogeologic parameters testing all wells	15,000
	Data analysis, verification, and mapping	\$ 5,000
	Groundwater Investigation	\$ 24,000
<u>Management and Results Analysis</u>		
	Program Management	\$ 10,000
	Data analysis, processing, and compilation	15,000
	Report Preparation and Review	10,000
	Remedial Action Workplan Preparation	20,000
	Meetings and Misc. services	\$ 7,500
	Management and Results Analysis	\$ 62,500
	Total Estimated RIW Implementation Cost	\$327,000

NOTE: Estimate does not include the completion of any remediation nor disposal of any materials from the site.

ATTACHMENT 1

COMMUNITY RIGHT-TO-KNOW SURVEY

DEQ-094
9/89

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMUNITY RIGHT TO KNOW SURVEY FOR 1989

to satisfy requirements under SARA, Title III, Section 312
and New Jersey Community Right to Know

NAME SIC COUNTY/MUNIC. DUE DATE

0235700000 3412-0714
CENTRAL STEEL DRUM COMPANY CORP.
ATTN: NEIL FISCHER
704 DOREMUS AVENUE
NEWARK, NJ 07105

PEEL HERE

IMPORTANT: A separate survey must be completed
for each facility.

(A) FACILITY LOCATION

If the facility or township location is different than
the mailing address on the label, enter location
address or township below.

Check here if you would like your survey mailed to
above address ☐

Indicate changes to mailing address on label

- (B) Does this facility use, store, or produce any hazardous materials which
must be reported under the N.J. Worker & Community Right to Know
Act or Section 312, Title III of the Superfund Amendments and
Reauthorization Act?

☒ Yes ☐ No

(See Reportable Substances and Thresholds)

- (C) Briefly describe the nature of the operations or business conducted at
this facility

STEEL DRUM REWORKING

- (D) Number of employees at facility:

97

- (E) Number of facilities in New Jersey

1

- (F) Dun and Bradstreet No.

1111111111

- (G) Check the box if you were
granted a R&D exemption last
year or if you wish to receive
an application questionnaire.

☐

- (H) CERTIFICATION OF OWNER/OPERATOR OR AUTHORIZED REPRESENTATIVE — I certify under penalty of
law that I have personally examined and am familiar with the information submitted in this document, and that
based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted
information is true, accurate, and complete.

Signature

Date

2/15/90

Phone

Number (201) 344-8500

Name (Print)

NEIL FISCHER

Title

Sec. Treas.

- (I) POLICE AND FIRE DEPARTMENT — Enter the respective phone numbers, names and addresses (including
Zip Code) of your local police and fire departments in the spaces below.

POLICE DEPT. Phone

Number (201) 233-6190

Name

NEWARK POLICE

Address

619 MARKET ST

Municipality

NEWARK

Zip

FIRE DEPT. Phone

Number (201) 233-2515

Name

NEWARK

Address

DOREMUS AVE AND PORT ST

Municipality

NEWARK

Zip 07105

- (J) FACILITY EMERGENCY CONTACT

Name

NEIL FISCHER

Title

Sec. Treas.

Facility Phone Number

344-8500

Emergency Contact Phone Number (201) 344-8500

NOTE: Make copies of this survey! The law requires that you send a
copy to your County Lead Agency, Local Emergency Planning
Committee and your local police and fire departments.

(County agency and local committee addresses in Instructions)

Return original to:
RIGHT TO KNOW PROGRAM
CN 405
Trenton, NJ 08625-0405

IMPORTANT! Read all instructions before completing. Photocopy this sheet, if you need additional forms. Please print or type all responses. Complete sections A-F before making photocopies of this page.

Page 1 of 3

Reporting Period: January 1 - December 31, 1989

FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 19735700000

C. Location Address 704 DOREMUS AVE

B. Facility Name CENTRAL STEEL DIV CO

D. City NEWARK

E. State NJ

F. Zip 07105

CHEMICAL DESCRIPTION	HAZARDS	Inventory (Ranges)	STORAGE CODES AND LOCATIONS
Substance <u>ACETYLENE</u> CAS No. <u>74-86-2</u> DOT No. <u>1001</u> Substance No. (if available) <u>0015</u> Percent <u>617</u> State <u>G</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	(Codes for all that apply.) <u>70, 69, 67</u>	(Enter Code) Max. Daily <u>12</u> Avg. Daily <u>11</u> Days Onsite <u>365</u> (Actual Number)	(Enter Codes, except Location(s); supply narrative.) Container <u>40</u> Conditions <u>02, 04</u> Location(s) <u>MAINTENANCE SHOP</u>
Substance <u>ARGON</u> CAS No. <u>7440-37-1</u> DOT No. <u>1006</u> Substance No. (if available) <u>0151</u> Percent <u>54</u> State <u>G</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u>69</u>	Max. Daily <u>11</u> Avg. Daily <u>11</u> Days Onsite <u>365</u> (Actual Number)	Container <u>40</u> Conditions <u>02, 04</u> Location(s) <u>RING MANUFACTURING</u>
Substance <u>BRAKE FLUID</u> CAS No. <u> </u> DOT No. <u>1118</u> Substance No. (if available) <u>2178</u> Percent <u>612</u> State <u> </u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u> </u>	Max. Daily <u>10</u> Avg. Daily <u>10</u> Days Onsite <u>365</u> (Actual Number)	Container <u>46</u> Conditions <u>01, 04</u> Location(s) <u>GARAGE DEPT</u>
Substance <u>CARBON DIOXIDE</u> CAS No. <u>124-38-9</u> DOT No. <u>1013</u> Substance No. (if available) <u>0243</u> Percent <u>6</u> State <u>S</u> Trade Secret <input type="checkbox"/> Code Code Check if claiming	<u>69</u>	Max. Daily <u>11</u> Avg. Daily <u> </u> Days Onsite <u>365</u> Actual Number	Container <u>40</u> Conditions <u>02, 04</u> Location(s) <u>R.V. MANUFACT</u>
Substance <u>FERROUS METAL TURNING</u> CAS No. <u> </u> DOT No. <u>2743</u> Substance No. (if available) <u>241</u> Percent <u>6</u> State <u>S</u> Trade Secret <input type="checkbox"/> Code Code Check if claiming	<u> </u>	Max. Daily <u>11</u> Avg. Daily <u> </u> Days Onsite <u>365</u> Actual Number	Container <u>47</u> Conditions <u>01, 04</u> Location(s) <u>MAINTENANCE SHOP</u>
Substance <u>GASOLINE</u> CAS No. <u>8006-61-9</u> DOT No. <u>2000</u> Substance No. (if available) <u>0000</u> Percent <u>612</u> State <u> </u> Trade Secret <input type="checkbox"/> Code Code Check if claiming	<u> </u>	Max. Daily <u>11</u> Avg. Daily <u>13</u> Days Onsite <u>365</u> Actual Number	Container <u>47</u> Conditions <u>01, 04</u> Location(s) <u>MAINTENANCE SHOP</u>
Substance <u>MELT</u> CAS No. <u>78-33-3</u> DOT No. <u>1993</u> Substance No. (if available) <u>238</u> Percent <u>60</u> State <u> </u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u> </u>	Max. Daily <u>11</u> Avg. Daily <u>12</u> Days Onsite <u>365</u> (Actual Number)	Container <u>47</u> Conditions <u>01, 04</u> Location(s) <u>MAINTENANCE SHOP</u>

IMPORTANT! Read all instructions before completing. Photocopy this sheet, if you need additional forms. Please print or type all responses. Complete sections A-F before making photocopies of this page.

Page 2 of 3

Reporting Period: January 1 - December 31, 1989

FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 19735700000

C. Location Address 704 DORRUS AVE

B. Facility Name CENTRAL STEEL DRUM CO

D. City NEWARK E. State NJ F. Zip 07105

CHEMICAL DESCRIPTION	HAZARDS	Inventory (Ranges)	STORAGE CODES AND LOCATIONS
Substance <u>PAINTS</u> CAS No. <u> </u> DOT No. <u>1263</u> Substance No. (if available) <u>2628</u> Percent <u>60</u> State <u>L</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	(Codes for all that apply.) <u>20, 66</u>	(Enter Code) <u>14</u> Max. Daily <u> </u> Avg. Daily <u>14</u> Days Onsite <u>365</u> (Actual Number)	(Enter Codes, except Location(s); supply narrative.) Container <u>47</u> Conditions <u>01, 04</u> Location(s) <u>FLAMMABLE STORAGE SHED</u>
Substance <u>PROPANE</u> CAS No. <u>74-99-6</u> DOT No. <u>1987</u> Substance No. (if available) <u>1594</u> Percent <u>60</u> State <u>G</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u>69, 70</u>	Max. Daily <u>11</u> Avg. Daily <u>11</u> Days Onsite <u>365</u> (Actual Number)	Container <u>40</u> Conditions <u>02, 04</u> Location(s) <u>OUTSIDE MAIN TANK STORAGE</u>
Substance <u>XYLENE</u> CAS No. <u>1330-20-2</u> DOT No. <u>1307</u> Substance No. (if available) <u>2014</u> Percent <u>60</u> State <u>L</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u>70</u>	Max. Daily <u>12</u> Avg. Daily <u>12</u> Days Onsite <u>365</u> (Actual Number)	Container <u>47</u> Conditions <u>01, 04</u> Location(s) <u>FLAMMABLE STORAGE SHED</u>
Substance <u>ADHESIVES</u> CAS No. <u> </u> DOT No. <u>2067</u> Substance No. (if available) <u>3072</u> Percent <u>60</u> State <u>S</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u> </u>	Max. Daily <u>13</u> Avg. Daily <u>2</u> Days Onsite <u>365</u> (Actual Number)	Container <u>41</u> Conditions <u>01, 04</u> Location(s) <u>STORAGE ROOM</u>
Substance <u>ADHESIVES</u> CAS No. <u> </u> DOT No. <u>1133</u> Substance No. (if available) <u>2067</u> Percent <u>60</u> State <u>L</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u>70</u>	Max. Daily <u>12</u> Avg. Daily <u>1</u> Days Onsite <u>365</u> (Actual Number)	Container <u>46</u> Conditions <u>01, 04</u> Location(s) <u>FLAMMABLE STORAGE SHED</u>
Substance <u>ANTI FREEZE</u> CAS No. <u> </u> DOT No. <u>1442</u> Substance No. (if available) <u>2131</u> Percent <u> </u> State <u>L</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u>70</u>	Max. Daily <u>3</u> Avg. Daily <u> </u> Days Onsite <u>125</u> (Actual Number)	Container <u>42</u> Conditions <u> </u> Location(s) <u>STORAGE SHED</u>
Substance <u>PETROLEUM OIL</u> CAS No. <u> </u> DOT No. <u>1270</u> Substance No. (if available) <u>2651</u> Percent <u> </u> State <u>L</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	<u>70</u>	Max. Daily <u>3</u> Avg. Daily <u>12</u> Days Onsite <u>365</u> (Actual Number)	Container <u>50</u> Conditions <u> </u> Location(s) <u>STORAGE SHED</u>

IMPORTANT! Read all instructions before completing. Photocopy this sheet, if you need additional forms. Please print or type all responses. Complete sections A-F before making photocopies of this page.

Reporting Period: January 1 - December 31, 1989

FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 19735700000

C. Location Address 704 Cozmes Ave

B. Facility Name CENTRAL STREET DRUGS

D. City NEWARK E. State NJ F. Zip 07105

CHEMICAL DESCRIPTION		HAZARDS	Inventory (Ranges)	STORAGE CODES AND LOCATIONS
Substance <u>FUEL OIL</u> CAS No. _____ DOT No. <u>1993</u> Substance No. (if available) <u>2444</u> Percent <u>60</u> State <u>L</u> Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)	(Codes for all that apply.) <u>70</u>	(Enter Code) Max. Daily <u>14</u> Avg. Daily <u>13</u> Days Onsite <u>265</u> (Actual Number)	(Enter Codes, except Location(s); supply narrative.) Container <u>41</u> Conditions <u>O, C1</u> Location(s) <u>FRONT YARD - TRACTOR FILL</u>	
Substance _____ CAS No. _____ DOT No. _____ Substance No. (if available) _____ Percent _____ State _____ Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)		Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions _____ Location(s) _____	
Substance _____ CAS No. _____ DOT No. _____ Substance No. (if available) _____ Percent _____ State _____ Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)		Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions _____ Location(s) _____	
Substance _____ CAS No. _____ DOT No. _____ Substance No. (if available) _____ Percent _____ State _____ Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)		Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions _____ Location(s) _____	
Substance _____ CAS No. _____ DOT No. _____ Substance No. (if available) _____ Percent _____ State _____ Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)		Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions _____ Location(s) _____	
Substance _____ CAS No. _____ DOT No. _____ Substance No. (if available) _____ Percent _____ State _____ Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)		Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions _____ Location(s) _____	
Substance _____ CAS No. _____ DOT No. _____ Substance No. (if available) _____ Percent _____ State _____ Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)		Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions _____ Location(s) _____	
Substance _____ CAS No. _____ DOT No. _____ Substance No. (if available) _____ Percent _____ State _____ Trade Secret <input type="checkbox"/> (Code) (Code) (Check if claiming)		Max. Daily _____ Avg. Daily _____ Days Onsite _____ (Actual Number)	Container _____ Conditions _____ Location(s) _____	

ATTACHMENT 2

WELL SEARCH DATA

CENTRAL STEEL DRUM
1/2 MILE RADIUS WELL SEARCH

SITE NO.	OWNER	ADDRESS	WELL #	USE	DISTANCE TO SITE(ft.)	TOTAL DEPTH (ft.)	STATIC WATER LEVEL(ft.)	SCREENED INTERVAL(ft.)
A	IMPERIAL URBAN RENEWAL ASSOCIATES	NEWARK, N.J.	OW-3	M	1500	19	NR	9-19
B	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	49	M	500	13.5	3.33	3-13.5
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	50	M	500	13.5	3.15	3-13.5
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	51	M	500	13.5	3.15	3-13.5
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	52	M	500	13.5	3.25	3-13.5
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	53	M	500	13.5	3.15	3-13.5
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	54	M	500	13	3	3-13
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	55	M	500	13	3.25	3-13
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	56	M	500	13	2.9	3-13
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	57	M	500	13	3.08	3-13
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	58	M	500	10	3.65	3-10
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	59	M	500	10	3.5	3-10

NOTES:

M - MONITORING WELL
O - OBSERVATION WELL
R - RECOVERY WELL
NR - NOT REPORTED

SITE NO.	OWNER	ADDRESS	WELL #	USE	DISTANCE TO SITE(ft.)	TOTAL DEPTH (ft.)	STATIC WATER LEVEL(ft.)	SCREENED INTERVAL(ft.)
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	60	M	500	11	3.65	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	61	M	500	11	3.9	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	62	M	500	11	4.15	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	63	M	500	11	4.25	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	64	M	500	11	3.42	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	65	M	500	13.5	3.25	3-13.5
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	66	M	500	13.5	3	3-13.5
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	67	M	500	11	3.33	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	70	M	500	11	0.5	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	71	M	500	11	2.25	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	72	M	500	11	3.25	3-11
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	73	M	500	11	2.33	3-11

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SITE NO.	OWNER	ADDRESS	WELL #	USE	DISTANCE TO SITE(ft.)	TOTAL DEPTH (ft.)	STATIC WATER LEVEL(ft.)	SCREENED INTERVAL(ft.)
	TEXACO USA	DOREMUS AVE. NEWARK, N.J.	74	M	500	11	3.15	3-11
C	TENNECO OIL CO.	NEWARK, N.J.	MW-1	M	2000	10	0	0.5-10
	TENNECO OIL CO.	NEWARK, N.J.	MW-2	M	2000	10.5	4	0.5-10.5
	TENNECO OIL CO.	NEWARK, N.J.	MW-3	M	2000	10.5	6	0.5-10.5
D	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-6	O	1100	12	NR	9-12
	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-7	O	1100	16	NR	13-16
	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-8	O	1100	16	NR	13-16
	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-9	O	1100	18	NR	13-18
	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-10	O	1100	18	NR	13-18
	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-11	O	1100	18	NR	13-16
	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-12	O	1100	16	NR	13-18
	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	MW-13	O	1100	18	NR	13-18

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SITE NO.	OWNER	ADDRESS	WELL #	USE	DISTANCE TO SITE(ft.)	TOTAL DEPTH (ft.)	STATIC WATER LEVEL(ft.)	SCREENED INTERVAL(ft.)
E	McKESSON ENVIROSYSTEM CO.	DOREMUS AVE. NEWARK, N.J.	PW-1	R	1100	18	5	13-18
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-1	M	1800	15	4.71	5-15
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-2	M	1800	15	NR	5-15
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-3	M	1800	12	1.31	1.5-12
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-4	M	1800	10	1.5	1-10
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-5	M	1800	10	1.5	1-10
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-6	M	1800	10	1.5	1-10
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-7	M	1800	11	3.35	1-11
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-8	M	1800	10	2.1	1-10
	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-9	M	1800	11	1.6	1-11
F	AMERADA HESS CORP.	DOREMUS AVE. NEWARK, N.J.	MW-10	M	1800	11	1.65	1-11
	KOPPERS CO. INC.	NEWARK, N.J.	PN-1A	M	1100	5	NR	3-5

NOTES:

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SITE NO.	OWNER	ADDRESS	WELL #	USE	DISTANCE TO SITE (ft.)	TOTAL DEPTH (ft.)	STATIC WATER LEVEL (ft.)	SCREENED INTERVAL (ft.)
	KOPPERS CO. INC.	NEWARK, N.J.	PN-1B	M	1100	5	NR	3-5
	KOPPERS CO. INC.	NEWARK, N.J.	PN-1C	M	1100	15	NR	13-15
	KOPPERS CO. INC.	NEWARK, N.J.	PN-2A	M	1100	5	NR	3-5
	KOPPERS CO. INC.	NEWARK, N.J.	PN-2B	M	1100	10	NR	8-10
	KOPPERS CO. INC.	NEWARK, N.J.	PN-2C	M	1100	15	NR	13-15
G	TIDEWATER BAILING CORP.	NEWARK, N.J.	MW-3	M	1200	9	NR	3-9
	TIDEWATER BAILING CORP.	NEWARK, N.J.	MW-4	M	1200	13	NR	3-13
H	CBS URBAN RENEWAL CORP.	NEWARK, N.J.	CBSW1	M	1800	22	14.5	7-22
	CBS URBAN RENEWAL CORP.	NEWARK, N.J.	CBSW2	M	1800	20	11.5	7-20
	CBS URBAN RENEWAL CORP.	NEWARK, N.J.	CBSW3	M	1800	15	8.42	3.5-15
	CBS URBAN RENEWAL CORP.	NEWARK, N.J.	CBSW4	M	1800	15	7.33	3.5-15
	CBS URBAN RENEWAL CORP.	NEWARK, N.J.	CBSW5	M	1800	15	8.25	3-15

NOTES:

M - MONITORING WELL
O - OBSERVATION WELL
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STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2610223

APPLICATION NO. _____

COUNTY Essex

WELL RECORD

1. OWNER Imperial Urban Renewal Assoc. ADDRESS P.O. Box 282, Hurdle, N.J.
Owner's Well No. _____ SURFACE ELEVATION _____ Feet:
(Above mean sea level)
2. LOCATION Hawauk, NJ
3. DATE COMPLETED 9/24/87 DRILLER Warren George, Inc.
4. DIAMETER: Top 4 1/2 inches Bottom 4 1/2 inches TOTAL DEPTH 19' Feet:
5. CASING: Type PVC Diameter 4 1/2 inches Length 10' Feet:
6. SCREEN: Type DJ Size of Opening _____ Diameter 4 1/2 inches Length 10' Feet:
Range in Depth { Top _____ Feet Bottom _____ Feet Geologic Formation _____
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA Boring Log
14. DATA OBTAINED BY Warren George, Inc. Date 6/16/87

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

26-23-173
PERMIT NO. 2609871-7
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELANCEY ST. NEWARK
Owner's Well No. 49 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION EAST OF TANK No. 1
3. DATE COMPLETED 11-24-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13.5 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON SMELL Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 11-26-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609872-5
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELANEY ST. NEWARK
Owner's Well No. 50 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION EAST OF TANK NO. 1
3. DATE COMPLETED 11-24-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13.5 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening OSU Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON SMELL Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 11-26-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

FENLEY & NICOL CO., INC.

445 BROOK AVENUE

DEER PARK, NY 11729

(516) 586-4900

26-4871

26-4872

SOIL DIVISION

DRILLERS FIELD LOG

HOLE NO. 49 & 50PROJECT TEXACO USA NEWARK
910 DELANNEY ST.Sta. EAST OF TANK No. 1

Offset _____

Date Began 11-24-86 Completed 11-24-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D. _____Sampler O.D. 3" Wt. 140 Fall 30"
I.D. 2 1/2"
Length 24"Diamond Bit No. Hollow Stem

Sheet _____ of _____ Sheets for Hole No. _____

DATE	TIME		DEPTH	
	A.M.	P.M.	CASING	WATER
11-24	#49		13'-6"	3'-4"
11-24	#50		13'-6"	3'-2"

Casing filled with water? _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth? _____

Driller: CARL KLEPPER

Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS	Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS
			0-5	5-10					0-5	5-10	
0					BLACK TOP & STONE	0					BLACKTOP-STONE
1					LT. BROWN SAND & SANDY CLAY	1					LT BROWN SAND & SANDY CLAY
2						2					
3		SSS# 49-3				3		SSS# TN 50-3			
4					DK BROWN ORGANIC CLAY & SILTY CLAY	4					LT - DK CLAY SAND CLAY & SILT
5						5					
6						6		SSS# TN 50-6			
7					DK GRAY HIGHLY ORGANIC SILTY CLAY	7					ORGANIC SILTY CLAY DK GRAY
8		SSS# TN 49-8				8					
9						9					
10					HYDROCARBON SMELL	10					
11						11					
12						12					
13						13		SSS# TN 50-13			
14						14					

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2607873-3

APPLICATION NO. 26-23-173

COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANCEY ST. NEWARK
Owner's Well No. 51 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION EAST OF TANK No. 1
3. DATE COMPLETED 11-24-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13.5 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 1/2" Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON ODOUR Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 11-26-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2607874-1

APPLICATION NO. 26-23-173

COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELANCEY ST. NEWARK
Owner's Well No. 52 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTHEAST OF TANK No. 1
3. DATE COMPLETED 11-24-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 135 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BOG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON ODOR Sample: Yes _____ No X
AND SMOG
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 11-26-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

DATE	TIME		DEPTH	
	A.M.	P.M.	CASING	WATER
11-24	51		13'-6"	3'-2"
11-24	52		13'-6"	3'-3"

Casing filled with water?

Depth wash water added?

Artesian?

Height of head?

What depth?

Driller: Carl Klepper

FENLEY & NICOL CO., INC.

445 BROOK AVENUE
DEER PARK, NY 11729
(516) 586-4900

SOIL DIVISION

DRILLERS FIELD LOG

HOLE NO. 51852

PROJECT TEXACO USA NEWARK
910 DELANNEY ST.

Sta. EAST & NORTHWEST OF TRAX No. 1

Offset

Date Began 11-24-86 Completed 11-24-86

Ground Elev. G. W. Elev.

Casing O.D. 4" Hammer
I.D.

Sampler O.D. 3" Wt. 140 Fall 30"
I.D. 2 1/2"
Length 24"

Diamond Bit No. Hollow Stem

Sheet of Sheets for Hole No.

51 Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS	52 Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS
			0-5	5-10					0-5	5-10	
0					BLUESTONE	0					BLACK-TOP, BLUESTONE
1					LT BROWN FINE - COARSE SAND, SANDY CLAY	1					LT.-DK. BROWN FINE - COARSE SAND, SANDY CLAY
2						2					
3	SSS	TN 51-3				3	SSS	TN 52-3			
4						4					
5						5					
6	SSS	TN 51-6			DK GRAY ORGANIC CLAY & SILT. HYDROCARBON ODOR	6	SSS	TN 52-6			DK BROWN - GRAY ORGANIC CLAY & SILT. HYDROCARBON ODOR.
7						7					
8						8					
9						9					
10						10					
11						11					
12						12					
13	SSS	TN 51-13				13	SSS	TN 52-13			
14						14					

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609875-0

APPLICATION NO. 26-23-173

WELL RECORD

COUNTY ESSEX

1. OWNER TEXACO USA ADDRESS 910 DELANCEY ST. NEWARK
Owner's Well No. 53 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTHWEST C.R. TANK NO. 1
3. DATE COMPLETED 11-25-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13.5 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 030 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER _____ Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO 2609676-8

APPLICATION NO 26-23-173

WELL RECORD

COUNTY ESSEX

1. OWNER TEXACO USA ADDRESS 910 DELANEY ST. NEWARK
Owner's Well No. 54 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTH EAST OF TANK No. 1
3. DATE COMPLETED 11-25-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BCG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

[illegible]

What depth? _____

Driller: CARL KLEPPER

HOLE NO. 53 & 54

Sheet _____ of _____ Sheets for Hole No. _____

[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 260934-9
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANCEY ST. NEWARK
Owner's Well No. 55 SURFACE ELEVATION 10 Feet:
(Above mean sea level)
2. LOCATION NORTHEAST OF TANK No 1
3. DATE COMPLETED 11-25-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.50 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BCG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY No Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

FENLEY & NICOL CO., INC.

445 BROOK AVENUE

DEER PARK, NY 11729

(516) 586-4900

SOIL DIVISION

DRILLERS FIELD LOG

HOLE NO. 55

PROJECT TEXACO USA NEWARK
910 DELANCEY ST.

Sig. NORTHERST OF TANK No. 1

Offset _____

Date Began 11-25-86 Completed 11-25-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D.

Sampler O.D. 3" Wt. 140 Fall 30'
I.D. 2 1/2"
Length 24'

Diamond Bit No. Herlow 570m

Sheet _____ of _____ Sheets for Hole No. _____

Casing filled with water? _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth? _____

Driller: CARL KLEPPER

[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609935-7
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANCOY ST. NEWARK
Owner's Well No. 56 SURFACE ELEVATION 10 Feet:
(Above mean sea level)
2. LOCATION EAST OF TANK No. 1
3. DATE COMPLETED 11-26-82 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 20 Diameter 4 inches Length 10 Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet Geologic Formation RIVER BED
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT.
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON OIL Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO 26-23-173
APPLICATION NO 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANNEY ST NEWARK
Owner's Well No. 57 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION EAST OF TANK No. 1
3. DATE COMPLETED 11-26-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening .030 Diameter 4 inches Length 10 Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation RIVER BED
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY No Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT.
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON ODOR Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? yes
(Give details on back of sheet or on separate sheet. If electronic log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

HOLE NO. 56 & 57

910 DELANCEY ST.

Sta. EAST OF TRACK No. 1

Offset

Date Began 11-26-86 Completed 11-26-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D. _____

O.D. 3" Wt. 140 Fall 30"
 I.D. 2 1/2"
 Length 24'

Diamond Bit No. Horizon Stern

Sheet _____ of _____ Sheets for Hole No. _____

DATE	TIME		DEPTH	
	A.M.	P.M.	CASING	WATER
11-26	#56		13'-0"	2'-11"
11-26	#57		13'-0"	3'-1"

Casing filled with water?

Depth wash water added? _____

Artesian?

Height of head? _____

What depth? _____

Driller: CARL KLEPPER

[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO 2609237-3
APPLICATION NO 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELAWARE ST. NEWARK
Owner's Well No. 58 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION SOUTH OF TANK No 2
3. DATE COMPLETED 12-2-86 DRILLER CARL KLEIDER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 10 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 030 Diameter 4 inches Length 10 Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation RIVER BED
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 260938-1
APPLICATION NO. 26-23 173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELAWARE ST. NEWARK
Owner's Well No. 59 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION EAST OF TANK No. 2
3. DATE COMPLETED 12-2-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 10 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.30 Diameter 4 inches Length 10 Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation RIVER BOG
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY No Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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(516) 586-4900

SOIL DIVISION

DRILLERS FIELD LOG

26-23-17;

HOLE NO. 58 & 59

PROJECT TEXACO USA NEWARK

910 DELANCEY ST

Sig. SOUTH E EAST OF TANK NO. 2

Offset _____

Date Began 12-2-86 Completed 12-2-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D. _____

O.D. 3" Wt. 140 Fall 30"
 I.D. 2 1/2"
 Length 24"

Diamond Bit No. Hawai Stem

Sheet _____ of _____ Sheets for Hole No. _____

Casing filled with water? _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth? _____

Driller: CPRL KLEPPER[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609737-0

APPLICATION NO. 26-23-173

COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANCEY ST. NEWARK
Owner's Well No. 60 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION EAST OF TANK NO. 8
3. DATE COMPLETED 12-2-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 260940-3
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELANCEY ST NEWARK
Owner's Well No. 61 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTH OF TANK NO. 8
3. DATE COMPLETED 12-2-86 DRILLER CARL KUEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

DATE	TIME		DEPTH	
	A.M.	P.M.	CASING	WATER
12-2	60		11'-0"	3'-8"
12-2	61		11'-1"	3'-11"

Casing filled with water? _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth? _____

Driller: CARL KLEPPER

FENLEY & NICOL CO., INC.

445 BROOK AVENUE

DEER PARK, NY 11729

(516) 586-4900

SOIL DIVISION

DRILLERS FIELD LOG

HOLE NO. 60 & 61PROJECT TEXACO USA NEWARK910 DELANCEY ST.Sta. EAST OF TANK No. 8 (60)NORTH OF TANK No. 8 (61)

Offset _____

Date Began 12-2-86 Completed 12-2-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D. _____Sampler O.D. 3" Wt. 140 Fall 30"
I.D. 2 1/2"
Length 24"Diamond Bit No. Hollow Stem

Sheet _____ of _____ Sheets for Hole No. _____

Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS	Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS
			0-5	5-10					0-5	5-10	
0					BLUESTONE	0					BLUESTONE
1					DK BROWN SILTY SAND W/ CLAY & DEBR	1					DK BROWN SANDY CLAY W/ DEBR & RED CLAY
2						2					
3		SSS ⁺ TN 60-3				3		SSS ⁺ TN 61-3			
4					VERY FINE DK BROWN SANDY CLAY LITTLE ORGANIC MATTER	4					DK BROWN - DK RED FINE SANDY ORGANIC CLAY
5						5		SSS ⁺ TN 61-5			
6		SSS ⁺ TN 60-6				6					VERY FINE DK BROWN LT. GRAY SANDY CLAY NO ORGANIC MATTER
7						7					
8						8					
9						9					
10						10					
11						11					
12		SSS ⁺ TN 60-12				12		SSS ⁺ TN 61-12			

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2607941-0
APPLICATION NO. 26-23 173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELAUNAY ST. NEWARK
Owner's Well No. 62 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION SOUTH OF OLD TANK NO 9 AREA
3. DATE COMPLETED 12-2-86 DRILLER CARL KUEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 20 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER B.C.
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY No Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 260742-8

APPLICATION NO. 26-23-173

COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANLEY ST. NEWARK
Owner's Well No. 03 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION EAST OF TANK NO. 10
3. DATE COMPLETED 12-2-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BOG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

FENLEY & NICOL CO., INC.

445 BROOK AVENUE

DEER PARK, NY 11729

(516) 586-4900

SOIL DIVISION

DRILLERS FIELD LOG

HOLE NO. 62 & 63

PROJECT TEXACO USA NEWARK

910 DEZANEY ST.

Sta. SOUTH OF TANK No. 9 (62)
EAST OF TANK No. 10 (63)

Offset.

Date Began 12-2-86 Completed 12-2-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D. _____

O.D. 3" Wt. 140 Fall 30"
 I.D. 2 1/2"
 Length 34"

Diamond Bit No. Horizon Storm

Sheet _____ of _____ Sheets for Hole No. _____

[illegible]

Casing filled with water? _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth?

Driller: CARL ZETTER[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 26C9943-B

APPLICATION NO. 26-23-173

COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANCEY ST. NEWARK
Owner's Well No. C-4 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTH OF TANK NO. 11
3. DATE COMPLETED 12-2-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BOG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-2-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

445 BROOK AVENUE
DEER PARK, NY 11729

26-4443

26.23.123

HOLE NO. 64

910 DELANNEY ST.

Offset _____

Ground Elev. _____ G. W. Elev. _____

O.D. 3" Wt. 140 Fall 30'
 I.D. 2 1/2"
 Length 24"
 Sampler

Diamond Bit No. Hollow Stem

Sheet _____ of _____ Sheets for Hole No. _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth? _____

Driller: Carl Klepper[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO 2609944-6
APPLICATION NO 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELANLEY ST. NEWARK
Owner's Well No. 65 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION SOUTH EAST OF TANK #1
3. DATE COMPLETED 12-3-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13.5 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BOG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT.
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON ODOUR Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-3-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609945-4
APPLICATION NO 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELAWARE ST. NEWARK
Owner's Well No. 666 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION SOUTHWEST OF TANK N. 1
3. DATE COMPLETED 12-3-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13.5 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 0.30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT.
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER HYDROCARBON CO2 Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-3-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 260946-2

APPLICATION NO. 26-23-173

COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELANCEY ST. NEWARK
Owner's Well No. 67 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTHEAST OF NEW LOADING RACK
3. DATE COMPLETED 12-3-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BOG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-3-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

FENLEY & NICOL CO., INC.
445 BROOK AVENUE
DEER PARK, NY 11729
(516) 586-4900

SOIL DIVISION

DRILLERS FIELD LOG

HOLE NO. 67868

PROJECT TEXACO USA NEWARK
910 DELANCEY ST.

Sta. NORTHEAST & SOUTHWEST OF
NEW LOADING RACK

Offset _____

Date Began 12-3-86 Completed 12-3-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D. _____

Sampler O.D. 3" Wt. 140 Fall 30"
I.D. 2 1/2"
Length 24"

Diamond Bit No. Hollow Stem

Sheet _____ of _____ Sheets for Hole No. _____

DATE	TIME		DEPTH	
	A.M.	P.M.	CASING	WATER
12-3	#67		11'-0"	3'-4"
12-3	#68		11'-0"	3'-5"

Casing filled with water? _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth? _____

Driller: CARL KLEPPER

Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS	Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER		FIELD IDENTIFICATION AND REMARKS
			0-5	5-10					0-5	5-10	
0					BLUESTONE	0					BLUESTONE
1					FINE SILTY, SANDY CLAY DK. BROWN DK RED Bog.	1					FINE DK BROWN SILTY SAND
2						2					
3	SSS	TN 67-3				3	SSS	TN 68-3			
4					HIGH ORGANIC MATERIAL, TIDAL REEDS AND GRASSES. HEAVY BOG ODOR DURING DRILLING.	4					SANDY CLAY W/ RED CLAY, ORGANICS.
5						5	SSS	TN 68-5			
6	SSS	TN 67-6				6					
7						7					DARK BROWN HIGH ORGANIC RIVER BOG.
8						8					
9						9					
10						10	SSS	TN 68-10			
11	SSS	TN 67-11				11					
12						12					

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609248-7
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DEDMONLEY ST. NEWARK
Owner's Well No. 70 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTH OF THE NEW LEADING RACK
3. DATE COMPLETED 12-4-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BOG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-4-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609249-7
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 310 DELANCEY ST. NEWARK
Owner's Well No. 71 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION WEST OF THE NEW LOADING RACK
3. DATE COMPLETED 12-4-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-4-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609250-1
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELAWARE ST.
Owner's Well No. 72 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION WEST OF THE NEW LOADING RACK
3. DATE COMPLETED 12-4-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BOG
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-4-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2607251-9
APPLICATION NO. 26-23-173
COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 910 DELANCEY ST. NEWARK
Owner's Well No. 73 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTHWEST OF NEW LEADING ROCK
3. DATE COMPLETED 12-4-86 DRILLER CARL KLEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 30 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-4-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

FENLEY & NICOL CO., INC.
445 BROOK AVENUE
DEER PARK, NY 11729
(516) 586-4900

36-4950

36-4951

SOIL DIVISION

DRILLERS FIELD LOG

HOLE NO. 72 & 73

26.23.173

PROJECT TEXACO USA NETWORK
910 DELANCEY ST.

Sta. WEST & NORTHWEST OF THE
NEW LOADING RACK

Offset _____

Date Began 12-4-86 Completed 12-4-86

Ground Elev. _____ G. W. Elev. _____

Casing O.D. 4" Hammer
I.D. _____

Sampler O.D. 3" Wt. 140 Fall 30"
I.D. 2 1/2"
Length 24"

Diamond Bit No. Howson Stem

Sheet _____ of _____ Sheets for Hole No. _____

DATE	TIME		DEPTH	
	A.M.	P.M.	CASING	WATER
12-4	#72		11'-0"	3'-3"
12-4	#73		11'-8"	2'-4"

Casing filled with water? _____

Depth wash water added? _____

Artesian? _____

Height of head? _____

What depth? _____

Driller: CARL KLEPPER

72 Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER 0.5 .5-1.0	FIELD IDENTIFICATION AND REMARKS	73 Depth	Blows On Casing	Sample Number	BLOWS ON SAMPLER 0.5 .5-1.0	FIELD IDENTIFICATION AND REMARKS
0				BLUESTONE	0				BLUESTONE
1				DK BROWN SANDY SILTY CLAY	1				DK. BROWN SANDY SILTY CLAY LOW ORGANICS
2					2				
3				DK BROWN SILTY/ DEBR	3				SSS#TN 73-3
4					4				
5				River Bog High ORGANIC MATTER	5				SSS#TN 73-5
6					6				
7				SSS#TN 72-6	7				Low ORGANIC River Bog -
8					8				
9				SSS#TN 72-10	9				SSS#TN 73-10
10					10				
11					11				
12					12				

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 260053-5

APPLICATION NO. 26-23-173

COUNTY ESSEX

WELL RECORD

1. OWNER TEXACO USA ADDRESS 710 DELANCEY ST. NEWARK
Owner's Well No. 74 SURFACE ELEVATION 10 Feet
(Above mean sea level)
2. LOCATION NORTHWEST CORNER NEW LEADING, ROCK
3. DATE COMPLETED 12-4-86 DRILLER CARL KUEPPER
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 11 Feet
5. CASING: Type PVC Diameter 4 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 20 Diameter 4 inches Length 10 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation RIVER BED
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER GOOD Sample: Yes _____ No X
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG SEPARATE SHEET Are samples available? YES
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY STEVEN MULLER Date 12-4-86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

REMARKS:

[illegible]

MONITORING WELL RECORD

Well Permit No. 26 20867
Atlas Sheet Coordinates 26 : 23 : 173

OWNER IDENTIFICATION - Owner TENNECO OIL COMPANY
Address 1010 MILAM
HOUSTON State TX Zip Code _____
City _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 1
County ESSEX Municipality NEWARK CITY Lot No. 30 Block No. 50
Address Stratus Acquisition Corp. 678 Doremus Ave. Newark, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 06 / 21 / 90
Regulatory Program Requiring Well ECRA Case I.D. # _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) EEC Tele. # _____

WELL CONSTRUCTION

Total depth drilled 10 ft.

Well finished to 10 ft.

Borehole diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ No

Static water level after drilling ground ft. level

Water level was measured using Steel tape

Well was developed for 10 min hours at 2 gpm

Method of development Centrifugal pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity n/a gpm

Pump type: n/a

Drilling Method Hollow Stem Auger

Drilling Fluid none Type of Rig Diedrich D50

Name of Driller Allen Wilson

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None D C B A

N.J. License No. 1278

WILSON DRILLING

Name of Drilling Company _____

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	6 in	4	SCH 40 PVC
Outer Casing (Not Protective Casing)	none			
Screen (Note slot size)	10 6	10	4	SCH. 40PVC .020 slot
Tail Piece	none			
Gravel Pack	9.5	10	4	#2 Well Gravel
Annular Seal/Grout	0	9 0.5		Bentinite cement
Method of Grouting	Gravity Placement			

GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0-4' B1. Soil, Silt, Buck Fill
4-11' medium sands
water at ground level

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Allen J. Wilson

Date August 14, 1990

RECORD MONITORING WELL

Permit No. 26 - 20868
Well Permit Coordinates 26 : 23 : 149
Atlas S

OWNER IDENTIFICATION - Owner TENNECO OIL COMPANY
Address 1010 MILAM TX Zip Code
City HOUSTON State No. MW 2

WELL LOCATION - If not the same as owner please give address. Owner's Well Lot No. 30 Block No. 50
County Essex Municipality NEWARK CITY Mark, NJ
Address Stratus Acquisition Corp 678 Doremus Ave No. Well completed 06 / 21 / 90

TYPE OF WELL (as per Well Permit Categories) MONITORING Date w #
Regulatory Program Requiring Well ECRA Case I.D. Tele. #

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) EEC

WELL CONSTRUCTION

Total depth drilled 10.5 ft.

Well finished to 10.5 ft.

Borehole diameter:

Top 4.08 in.

Bottom 4.08 in.

Well was finished: ☐ above grade

☒ flush mounted

If finished above grade, casing
height (stick up) above land
surface ft.

Was steel protective casing installed?

☐ Yes ☒ No

Static water level after drilling 4' ft.

Water level was measured using Steel tape

Well was developed for 10 minutes at 2 gpm

Method of development Centrifugal pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity n/a gpm

Pump type: n/a

Drilling Method Hollow Stem Auger

Drilling Fluid none Type of Rig Diedrich D 50

Name of Driller Allen Wilson

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None D C B A

N.J. License No. 1278

WILSON DRILLING

Name of Drilling Company

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diamet. (inches)	Type and Material
Inner Casing	0	6.10.5	2	40 PVC
Outer Casing (Not Protective Casing)	none			40 PVC.020 slot
Screen (Note slot size)	6in	10.5	2	SCH.
Tail Piece	none			
Gravel Pack	.5	10.5		#2 Gravel-Well
Annular Seal/Grout	10	0.5		Bentinite/cement
Method of Grouting	Gravity placement			

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)

0-4' Bl. soil, Silt, buck fill
4-11' med. sands
Water at 4'

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
State rules and regulations.

Driller's Signature Allen J. Wilson

Date Aug 14, 1990

MONITORING WELL RECORD

Well Permit No. 26 - 20869
Atlas Sheet Coordinates 26 : 23 : 149

OWNER IDENTIFICATION - Owner TENNECO OIL COMPANY
Address 1010 MILAM
City HOUSTON State TX Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 3
County Essex Municipality NEWARK CITY Lot No. 30 Block No. 50
Address Stratus Acquisition Corp. 678 Doremus Ave. Newark, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 06 / 21 / 90
Regulatory Program Requiring Well ECRA Case I.D. # _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) EEC Tele. # _____

WELL CONSTRUCTION

Total depth drilled 10.5 ft.

Well finished to 10.5 ft.

Borehole diameter:

Top 10 8 in.

Bottom 10 8 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing
height (stick up) above land
surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Steel tape

Well was developed for 10 min hours at 2 gpm

Method of development Centrifugal Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity n/a gpm

Pump type: n/a

Drilling Method Hollow Stem Auger

Drilling Fluid none Type of Rig Diedrich D50

Name of Driller Allen Wilson

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None D C B A

N.J. License No. 1278

Name of Drilling Company WILSON DRILLING

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	<u>6 in</u> 2 1/2	2	SCH. 40PVC
Outer Casing (Not Protective Casing)	none			
Screen (Note slot size)	6 in	10.5	2	SCH. 40PVC .020516+
Tail Piece	none			
Gravel Pack	<u>10.5</u>	10.5		#2 Well Gravel
Annular Seal/Grout	0	05		Bentinite/cement
Method of Grouting	Gravity Placement			

GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0-4' Bl. Soil, Silt, Buck Fill
4-11' Med. Sands
Water at 6"

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Allen J. Wilson

Date August 14, 1990

**FOR OBSERVATION
PURPOSES ONLY**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

26-23172

PERMIT NO. 26 5615
APPLICATION NO. 26 23172
COUNTY ESSEXWELL RECORD

1. OWNER MCKESSON ENVROSYSTEM CO ADDRESS 600 DOREMUS AVENUE, NEWARK
Owner's Well No. MW-6 SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION 600 DOREMUS AVENUE, NEWARK, NJ
3. DATE COMPLETED 5/18/82 DRILLER HANDEX CORP
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 12 Feet
5. CASING: Type PVC Diameter 4 Inches Length 9 Feet
6. SCREEN: Type PVC Size of Opening 0.020 Diameter 4 Inches Length 3 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation _____
- Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date NO TEST Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type NONE Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR SAMPLING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER POOR Sample: Yes X No _____
Taste NA Odor STRONG Color GRAY/PROTHY Temp. NA of.
12. LOG ON BACK Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA FIELD
14. DATA OBTAINED BY TECHNICIAN Date 5/14 to 6/2/82

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

**FOR OBSERVATION
PURPOSES ONLY**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO.

26 5616

APPLICATION NO.

26 23172

COUNTY

Essex

WELL RECORD

1. OWNER NCKEESON ENVIRONMENTAL SYSTEM Co ADDRESS 600 DOREMUS AVENUE, NEWARK
 Owner's Well No. MW-7 SURFACE ELEVATION _____ Feet
 (Above mean sea level)
2. LOCATION 600 DOREMUS AVENUE, NEWARK, NEW JERSEY
3. DATE COMPLETED 5-20-82 DRILLER HANDEX CORP
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 16 Feet
5. CASING: Type PVC Diameter 4 Inches Length 13 Feet
6. SCREEN: Type PVC Size of Opening 0.020 Diameter 4 Inches Length 3 Feet
- Range in Depth { Top _____ Feet
 Bottom _____ Feet
- Geologic Formation Trb, Qsd
- Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
 Water rises to _____ Feet above surface
8. RECORD OF TEST: Date NO TEST Yield _____ Gallons per minute
 Static water level before pumping _____ Feet below surface
 Pumping level _____ feet below surface after _____ hours pumping
 Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
 How pumped _____ How measured _____
 Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
 Type NONE Mfrs. Name _____
 Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
 Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
 Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR SAMPLING AMOUNT { Average _____ Gallons Daily
 Maximum _____ Gallons Daily
11. QUALITY OF WATER POOR Sample: Yes ☒ No ☐
 Taste NA Odor STRONG Color GREY / PROTHY Temp. NA °F.
12. LOG _____ Are samples available? NO
 (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA FIELD
14. DATA OBTAINED BY TECHNICIAN Date 5/14/82 to 6/2/82

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

**FOR OBSERVATION
PURPOSES ONLY**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCESPERMIT NO. 26-5617
APPLICATION NO. 2623172
COUNTY ESSEXWELL RECORD

1. OWNER NCKESSON ENVROSISTEM CO ADDRESS 600 DOREMUS AVENUE, NEWARK
Owner's Well No. NW-8 SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION 600 DOREMUS AVENUE, NEWARK, NEW JERSEY
3. DATE COMPLETED 5/21/82 DRILLER HANDEX CORP
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 16 Feet
5. CASING: Type PVC Diameter 4 Inches Length 13 Feet
6. SCREEN: Type PVC Size of Opening 0.020 Diameter 4 Inches Length 3 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation _____
- Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date NO TEST Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type NONE Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR SAMPLING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER POOR Sample: Yes X No _____
Taste NA Odor STRONG Color GRAY / FROTHY Temp. NA of.
12. LOG ON BACK Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA FIELD
14. DATA OBTAINED BY TECHNICIAN Date 5/14/82 to 6/2/82

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

**FOR OBSERVATION
PURPOSES ONLY**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES26-23-172
PERMIT NO. 26-5618
APPLICATION NO. 26-23-172
COUNTY ESSEXWELL RECORD

1. OWNER NCKESSON ENVROSYSTEM CO ADDRESS 600 DOREMUS AVENUE, NEWARK
Owner's Well No. HW-9 SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION 600 DOREMUS AVENUE, NEWARK, NEW JERSEY
3. DATE COMPLETED 5/25/82 DRILLER HANDEK CORP
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 18' Feet
5. CASING: Type PVC Diameter 4 inches Length 13' Feet
6. SCREEN: Type PVC Size of Opening 0040 Diameter 4 inches Length 5' Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation Trb, Qsd
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date NO TEST Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type NONE Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR SAMPLING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER POOR Sample: Yes ☒ No _____
Taste HA Odor STRONG Color GRAY BROTHY Temp. NA OF.
12. LOG ON BACK Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA FIELD
14. DATA OBTAINED BY TECHNICIAN Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

**FOR OBSERVATION
PURPOSES ONLY**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES26-23-172
PERMIT NO. 26-5619
APPLICATION NO. 26-23-172
COUNTY ESSEXWELL RECORD

1. OWNER NCKESSON ENVROSYSTEM CO ADDRESS 600 DOREMUS AVE, NEWARK
Owner's Well No. NW-10 SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION 600 DOREMUS AVENUE NEWARK, NEW JERSEY
3. DATE COMPLETED 5-27-82 DRILLER HANDEX CORP
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 18 Feet
5. CASING: Type PVC Diameter 4 inches Length 13 Feet
6. SCREEN: Type PVC Size of Opening 0.020 Diameter 4 inches Length 5 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation Trb, Qsd
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date NO TEST Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type NONE Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR SAMPLING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER POOR Sample: Yes ☒ No ☐
Taste NA Odor STRONG Color GREY/PROTHY Temp. NA °F.
12. LOG ON BACK Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA FIELD
14. DATA OBTAINED BY TECHNICIAN Date 5/14/82 to 6/2/82

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

**FOR OBSERVATION
PURPOSES ONLY**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES26-23-17 26-5665
PERMIT NO. 26-5665
APPLICATION NO. 26 23 17
COUNTY ESSEXWELL RECORD

1. OWNER McKesson ENVIRONMENTAL SYSTEM Co ADDRESS 600 DOREMUS AVENUE, NEWARK
Owner's Well No. MW-11 SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION 600 DOREMUS AVENUE, NEWARK, NJ
3. DATE COMPLETED 6/1/82 DRILLER HANDEX CORP
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 18 Feet
5. CASING: Type PVC Diameter 4 Inches Length 13 Feet
6. SCREEN: Type PVC Size of Opening 0.020 Diameter 4 Inches Length 5 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation Trb, Qsd
- Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date NO TEST Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type NONE Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR SAMPLING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER POOR Sample: Yes X No _____
Taste NA Odor STRONG Color GREEN PROTHY Temp. NA OF.
12. LOG ON BACK Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA FIELD
14. DATA OBTAINED BY TECHNICIAN Date 5-14 to 6-2-82

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

**FOR OBSERVATION
PURPOSES ONLY**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES24-23712-26-5666
PERMIT NO. 26-5666
APPLICATION NO. 26-23172
COUNTY ESSEXWELL RECORD

1. OWNER NCKESSON ENVIRONMENTAL CO ADDRESS 600 DOREMUS AVENUE, NEWARK
Owner's Well No. MW 12 SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION 600 DOREMUS AVENUE, NEWARK, NJ
3. DATE COMPLETED 6-2-82 DRILLER HANDEX CORP
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 16 Feet
5. CASING: Type PVC Diameter 4 Inches Length 13 Feet
6. SCREEN: Type PVC Size of Opening 0.020 Diameter 4 Inches Length 3 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation Trb, Qsd
- Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date NONE (NO TEST) Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type NONE Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR SAMPLING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER POOR Sample: Yes ☒ No _____
Taste NA Odor STRONG Color GRAY / FROTHY Temp. NA °F.
12. LOG ON BACK Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA FIELD
14. DATA OBTAINED BY TECHNICIAN Date 5/14 to 6/2/82

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 26-5670

**FOR OBSERVATION
PURPOSES ONLY**

APPLICATION NO. 26-23-172

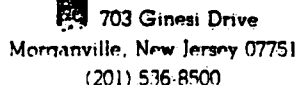
COUNTY Essex

WELL RECORD

1. OWNER McKesson Envirossystem Co. ADDRESS 600 Doremus Avenue, Newark, NJ
Owner's Well No. MW-13 SURFACE ELEVATION N.A. Feet
(Above mean sea level)
2. LOCATION 600 Doremus Avenue, Newark, New Jersey
3. DATE COMPLETED 6-2-82 DRILLER Handex Corp.
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH 18' Feet
5. CASING: Type PVC Diameter 4 inches Length 13' Feet
6. SCREEN: Type PVC Size of Opening 0.020 Diameter 4 inches Length 5' Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation Trb, Qsd
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY NO Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date No test Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type NONE Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR sampling AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER poor Sample: Yes X No _____
Taste N.A. Odor strong Color grey-frothy Temp. NA of.
12. LOG on back Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA field
14. DATA OBTAINED BY technician Date 5-14 to 6-2-82

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

SANITARY SEAL Yes X No _____ TYPE bentonite GEOLOGIC FRM Qsd



USE recovery

[illegible]

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2612528
APPLICATION NO. 16037
COUNTY ESSEX
COORD. 4-02317-0

WELL RECORD

1. OWNER Amherada Hess Corp ADDRESS 1 HESS PLAZA, WOODBRIDGE, NJ.
OWNER'S Well No. MW-1 SURFACE ELEVATION _____ Feet
(Above mean sea level)

2. LOCATION NEWARK, New Jersey

3. DATE COMPLETED 9-19-89 DRILLER H. Corporation

4. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 15 Feet

5. CASING: Type Schedule 40 PVC Diameter 2 inches Length 5 Feet

6. SCREEN: Type PVC Size of Opening 0.020 Diameter 2 inches Length 10 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation Wisconsin Glacial Till

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY NA Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST Date N/A Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type N/A Mfr. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER N/A Sample: Yes _____ No _____

Taste _____ Color _____ Color Brown Temp. _____ OF.

12. LOG ON BACK Are samples available? _____
(If no entries on back of sheet or on separate sheet, if existing log was made, please furnish copy.)

13. SOURCE OF DATA IT GEOLOGIST

14. DATA OBTAINED BY LANCE COMAS Date 9-29-89

NOTE Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

SEP 26 1989

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2017579
APPLICATION NO. 16039
COUNTY ESSEX
COORD. 20023176

WELL RECORD

1. OWNER AMERADA HESS Corporation ADDRESS 1 Hess Plaza, Woodbridge, NJ
Owner's Well No. MW-2 SURFACE ELEVATION _____ Feet

2. LOCATION Newark, New Jersey

3. DATE COMPLETED 9-19-89 DRILLER IT Corporation

4. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 15 Feet

5. CASING: Type schedule 40 PVC Diameter 2 inches Length 5 Feet

6. SCREEN: Type PVC Size of Opening 0.020 Diameter 2 inches Length 10 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation Wisconsin Glacial Till

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY N/A Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST Date N/A Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observe effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type N/A Mfrs. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER SILTY Sample: Yes _____ No _____

Taste _____ Odor _____ Color Brown Temp. _____ °F.

12. LOG ON BACK Are samples available? _____
(See notes on back of sheet or on separate sheet. If positive log was made, please attach copy.)

13. SOURCE OF DATA IT Geologist

14. DATA OBTAINED BY LANCE COMAS Date 9-29-89

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 21017580
APPLICATION NO. 16037
COUNTY ESSEX
COORD. 760 231 70

WELL RECORD

1. OWNER AMERADA Hess Corporation ADDRESS 1 Hess Plaza, Wood Bridge, NJ
Owner's Well No. MW-3 SURFACE ELEVATION _____ Feet
(Above mean sea level)

2. LOCATION 148-182 Dreams Ave, Newark, New Jersey

3. DATE COMPLETED 9-20-89 DRILLER IT Corporation

4. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 12 Feet

5. CASING: Type schedule 40 PVC Diameter 2 inches Length 1.5 Feet

6. SCREEN: Type PVC Size of Opening 0.020 inches Diameter 2 inches Length 10.5 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation WISCONSIN GLACIAL TILL

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY N/A Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST Date N/A Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observe effect on nearby wells _____

PERMANENT PUMPING EQUIPMENT:

Type N/A Mfrs. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

9. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

10. QUALITY OF WATER SLY Sample: Yes _____ No _____

Turb _____ Clear _____ Color Brown Temp. _____ OF.

11. LOG ON BACK Are samples available? _____
(See back of sheet or on separate sheet. If existing log was made, please attach copy.)

12. SOURCE OF DATA IT Geologist

13. DATA OBTAINED BY LANCE COMAS Date 9-29-89

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 21012581
APPLICATION NO. 16037
COUNTY ESSEX
COORD. 262.2317.10

WELL RECORD

1. OWNER AMERADA Hess Corporation ADDRESS 1 Hess Plaza, Woodbridge, NJ

Owner's Well No. MW-4 SURFACE ELEVATION _____ Feet
(Above mean sea level)

2. LOCATION 148-182 Doremus Ave, Newark, N.J.

3. DATE COMPLETED 9-20-89 DRILLER IT Corporation

4. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 10 Feet

5. CASING: Type Schedule 40 PVC Diameter 2 inches Length 1 Feet

6. SCREEN: Type PVC Size of Opening 0.020 Diameter 2 inches Length 9 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation Wicomico Glacial Till

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY N/A Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST Date N/A Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observe effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type N/A Mfr. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER SILTY Sample: Yes _____ No _____
Taste _____ Odor _____ Color Brown Temp. _____ °F.

12. LOG ON BACK Are samples available? _____
(Give details on back of sheet or on separate sheet. If detailed log was made, please attach copy.)

13. SOURCE OF DATA IT Geologist

14. DATA OBTAINED BY LANCE COMAS Date 9-29-89

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2101-2582
APPLICATION NO. 16037
COUNTY ESSEX
BORO 0102317.10

WELL RECORD

1. OWNER AMERADA Hess Corporation ADDRESS 1 Hess Plaza, Woodbridge, NJ
2. Owner's Well No. MW-5 SURFACE ELEVATION _____ Feet
(above mean sea level)
3. LOCATION 148-152 DOREMUS AVE, NEWARK
4. DATE COMPLETED 9-20-89 DRILLER IT Corporation
5. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 10 Feet
6. CASING: Type schedule 40 PVC Diameter 2 inches Length 1 Feet
7. SCREEN: Type PVC Size of Opening 0.020 Diameter 2 inches Length 9 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation WISCONSIN GLACIAL TILL
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY N/A Gallons per minute at _____ Feet above surface
- Water rises to _____ Feet above surface
8. RECORD OF TEST Date N/A Yield _____ Gallons per minute
- Static water level before pumping _____ Feet below surface
- Pumping level _____ feet below surface after _____ hours pumping
- Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
- How pumped _____ How measured _____
- Observe effect on nearby wells _____
- PERMANENT PUMPING EQUIPMENT:
- Type N/A Mfr. Name _____
- Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
- Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
- Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches
9. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
10. QUALITY OF WATER Silty Sample: Yes _____ No _____
- Taste _____ Odor _____ Color Brown Temp. _____ OF.
11. LOG ON BACK Are samples available? _____
(See instructions on back of sheet or on separate sheet. If separate log was made, please attach copy.)
12. SOURCE OF DATA IT Geologist
13. DATA OBTAINED BY LUKE COMAS Date 9-29-89

NOTE Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 261-7583
APPLICATION NO. 16037
COUNTY ESSEX
COORD. 2-42-23176

WELL RECORD

1. OWNER AMERADA HESS CORPORATION ADDRESS HESS PLAZA, WOODBRIDGE, NJ

Owner's Well No. MW-6 SURFACE ELEVATION _____ Feet
(Above mean sea level)

2. LOCATION 148-152 DOBENUS AVE NEWARK

3. DATE COMPLETED 9-20-89 DRILLER IT CORPORATION

4. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 10 Feet

5. CASING: Type Sched. 40 PVC Diameter 2 inches Length 1 Feet

6. SCREEN: Type PVC Size of Opening 0.020" Diameter 2 inches Length 9 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation WISCONSIN GLACIAL TILL

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY N/A Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST Date N/A Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type N/A Mfrs. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER SILTY Sample: Yes _____ No _____
Turb _____ Color BROWN Temp. _____ OF.

12. LOG ON BACK Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA IT GEOLOGIST

14. DATA OBTAINED BY LANCE COMAS Date 9-29-89

NOTE Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2612584
APPLICATION NO. 16037
COUNTY ESSEX
COORD. 26123176

WELL RECORD

1. OWNER AMERADA HESS CORPORATION ADDRESS 1 HESS PLAZA, WOODBRIDGE, NJ
Owner's Well No. MW-7 SURFACE ELEVATION _____ Feet
(About mean sea level)
2. LOCATION 148-182 DOREMUS AVE, NEWARK, NJ
3. DATE COMPLETED 9-21-89 DRILLER IT CORPORATION
4. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 11 Feet
5. CASING: Type schedule 40 PVC Diameter 2 inches Length 1 Feet
6. SCREEN: Type PVC Size of Opening 0.010 inches Diameter 2 inches Length 10 Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation WISCONSIN GLACIAL TILL
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY N/A Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date N/A Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfr. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches
10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER SILTY Sample: Yes _____ No _____
Taste _____ Odor _____ Color Brown Temp. _____ °F.
12. ON BACK Are samples available? _____
(See instructions on back of sheet or on separate sheet. If drilling log was made, please furnish copy.)
13. SOURCE OF DATA IT GEOLOGIST
14. DATA OBTAINED BY LANE CONIAS Date 9-29-89

NOTE Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO 2617585
APPLICATION NO 16037
COUNTY ESSEX
COORD. 2623176

WELL RECORD

1. OWNER AMERADA HESS Corp ADDRESS 1 HESS Plaza, Woodbridge, NJ

Owner's Well No. MW-8 SURFACE ELEVATION Feet
(Mean mean sea level)

2. LOCATION 148-152- DOREMUS AVE, NEWARK, NJ

3. DATE COMPLETED 9-21-89 DRILLER IT Corporation

4. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 10 Feet

5. CASING: Type schedule 40 PVC Diameter 2 inches Length 1 Feet

6. SCREEN: Type PVC Size of Opening 0.020" Diameter 2 inches Length 9 Feet

Range in Depth { Top Feet
Bottom Feet

Geologic Formation WISCONSIN GLACIAL TILL

Tail Piece: Diameter inches Length Feet

7. WELL FLOWS NATURALLY N/A Gallons per minute at Feet above surface

Water rises to Feet above surface

8. RECORD OF TEST Date N/A Yield Gallons per minute

Static water level before pumping Feet below surface

Pumping level feet below surface after hours pumping

Drawdown Feet Specific Capacity Gals. per min. per ft. of drawdown

How pumped How measured

Observe effect on nearby wells

PERMANENT PUMPING EQUIPMENT:

Type N/A Mfrs. Name

Capacity G.P.M. How Driven H.P. R.P.M.

Depth of Pump in well Feet Depth of Footpiece in well Feet

Depth of Air Line in well Feet Type of Motor on Pump Size inches

9. USED FOR MONITORING AMOUNT { Average Gallons Daily
Maximum Gallons Daily

10. QUALITY OF WATER SILTY Sample: Yes No

Taste Odor Color BROWN Temp. °F.

LOG ON BACK Are samples available?
(If no entries on back of sheet or on separate sheet, if electric log was made, please furnish copy.)

SOURCE OF DATA IT Geologist

DATA OBTAINED BY LAKE COMAS Date 9-29-89

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2112580
APPLICATION NO. 16037
COUNTY ESSEX
COORD. 71123176

WELL RECORD

CORNER AMERADA Hess Corporation ADDRESS 1 Hess Plaza, Woodbridge, N.J.

Owner's Well No. MW-9 SURFACE ELEVATION _____ Feet
(Mean mean sea level)

LOCATION 149-192 DOREMUS AVE, NEWARK, N.J.

DATE COMPLETED 9-21-89 DRILLER IT Corporation

DIAMETER: Top 6 1/4 inches Bottom 2 inches TOTAL DEPTH 11 Feet

CASING: Type schedule 40 PVC Diameter 2 inches Length 1 Feet

SCREEN: Type PVC Size of Opening 2020 inches Diameter 2 inches Length 10 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation WISCONSIN GLACIAL TILL

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY N/A Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST Date N/A Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type N/A Mfr. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

10. USED FOR MONITORING AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER SLTY Sample: Yes _____ No _____

Taste _____ Odor _____ Color BROWN Temp. _____ OF.

12. LOG ON BACK Are samples available? _____
(See instructions on back of sheet or on separate sheet. If descriptive log was made, please attach copy.)

13. SOURCE OF DATA IT GEOLOGIST

14. DATA OBTAINED BY LUKE COMAS Date 9-29-89

NOTE Use other side of this sheet for additional information such as log of materials penetrated,
analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 21012587
APPLICATION NO. 16037
COUNTY ESSEX
COORD. 26023176

WELL RECORD

1. OWNER AMERADA HESS CORPORATION ADDRESS 1 HESS PLAZA, WOODBRIDGE, N.J.
2. OWNER'S Well No. MW-10 SURFACE ELEVATION Feet
(Above mean sea level)
3. LOCATION 145-142 DOREMUS AVE., NEWARK, N.J.
4. DATE COMPLETED 9-21-89 DRILLER IT CORPORATION
5. DIAMETER: Top 6 1/4 inches Bottom 6 1/4 inches TOTAL DEPTH 11 Feet
6. CASING: Type Schedule 40 PVC Diameter 2 inches Length 1 Feet
7. SCREEN: Type PVC Size of Opening 2000 Diameter 2 inches Length 10 Feet
- Range in Depth { Top Feet
Bottom Feet
- Geologic Formation WISCONSIN GLACIAL TILL
8. Tail Piece: Diameter inches Length Feet
9. WELL FLOWS NATURALLY N/A Gallons per minute at Feet above surface
Water rises to Feet above surface
10. RECORD OF TEST Date N/A Yield Gallons per minute
Static water level before pumping Feet below surface
Pumping level feet below surface after hours pumping
Drawdown Feet Specific Capacity Gals. per min. per ft. of drawdown
How pumped How measured
Observed effect on nearby wells
11. PERMANENT PUMPING EQUIPMENT:
Type N/A Mfr. Name
Capacity G.P.M. How Driven H.P. R.P.M.
Depth of Pump in well Feet Depth of Footpiece in well Feet
Depth of Air Line in well Feet Type of Meter on Pump Size inches
12. USED FOR MONITORING AMOUNT { Average Gallons Daily
Maximum Gallons Daily
13. QUALITY OF WATER Silty Sample: Yes No
Taste Odor Color BROWN Temp. OF.
14. LOG ON BACK Are samples available?
(Circle number on back of sheet or on separate sheet. If descriptive log was made, please furnish copy.)
15. SOURCE OF DATA IT Geologist
16. DATA OBTAINED BY LANCE COMAS Date 9-29-89

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2622395

PERMIT NO. 26-7908

FOR MONITORING
PURPOSES ONLY

APPLICATION NO. _____

COUNTY Essex

WELL RECORD

1. OWNER KOPPERS CO. INC. ADDRESS _____

Owner's Well No. PW1A SURFACE ELEVATION _____ Feet
(Above mean sea level)

2. LOCATION Lot: _____ Block: _____ Municipality: Newark

3. DATE COMPLETED 8/8/85 DRILLER Empire Soils Investigations

4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 5 Feet

5. CASING: Type PVC Diameter 2 inches Length 3 Feet

6. SCREEN: Type PVC Size of Opening 105/6T Diameter 2 inches Length 2 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet

Geologic Formation _____

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type _____ Mfrs. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches

10. USED FOR _____ AMOUNT { Average _____ Gallons Daily

Maximum _____ Gallons Daily

11. QUALITY OF WATER _____ Sample: Yes _____ No _____

Taste _____ Odor _____ Color _____ Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY Walter Ketter Date 8/8/85

Supervisor: Edward Malack F1107

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2622395

PERMIT NO. 26-7909

APPLICATION NO. _____

COUNTY Essex

WELL RECORD

1. OWNER KOPPERS CO. INC. ADDRESS _____
Owner's Well No. PW13 SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION Lot: _____ Block: _____ Municipality: Newark
3. DATE COMPLETED 8/8/85 DRILLER Empire Soils Investigations
4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 5 Feet
5. CASING: Type PVC Diameter 2 inches Length 0.3 Feet
6. SCREEN: Type PVC Size of Opening 10/64" Diameter 2 inches Length 2 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation _____
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY Walter Ketter Date 8/8/85
Supervisor: Gerald Malack #1167
- (NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2622395

26-7907

**FOR MONITORING
PURPOSES ONLY**

WELL RECORD

PERMIT NO. _____

APPLICATION NO. Essex

COUNTY _____

1. OWNER KOPPERS CO. INC. ADDRESS _____
Owner's Well No. PNIC SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION Lot: _____ Block: _____ Municipality: Newark
3. DATE COMPLETED 8/8/85 DRILLER Empire Soils Investigations
4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 15 Feet
5. CASING: Type PVC Diameter 2 Inches Length 13 Feet
6. SCREEN: Type PVC Size of Opening 10 SLOT Diameter 2 Inches Length 2 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation _____
- Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY Walter Ketter Date 8/8/85
Supervisor: Gerald Malack #1167

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

26.22.395

26-1907

DRILLED FROM	DRILLED TO	WEATHER	TEMP	TIME	ESI	HOLE NO. <u>PNIC</u>
2	15				FIELD LOG	GRD. ELEV. _____
						S.W. DEPTH <u>1.4</u>

SHEET 1 OF 1 PROJECT Port Newell
LOCATION Kopper

Depth of Sample	SAMPLE NO.	BLOWS ON SAMPLER					BLOWS ON CASING C	MOISTURE	COLOR	CLASSIFICATION OF MATERIAL DRILLED	OTHER DATA
		0	6	12	18	N					
0-1	1	12	17					mo		Black cinders - gr. Fill material Oily	
1-2	2	22	64					m		AL cinders gr Fill Tr. Sand Oily	
2-3	3	43	10					mo	AL	Stiff Silty clay tr org. Oily	
3-4	4	34	7					mo	Red	Silty clay s-m gr. No odor	
4-5	5	4	6					mo	Red	Silty clay tr. AL. org	
5-6	6	4	3					mu	Red/Br	Silty clay/AL Stains no odor	
6-7	7	3	1					mo	Red/Br	Silty clay/AL Stains tr. roots odor	
7-8	8	2	2					m	Br	Silty clay/AL Stains clay odor	
8-9	9	1	1					m	Br	Silty clay tr F. Sand clay stains odor	
9-10	10	2	1					m	Br	Peat Strong H2S odor	
10-11	11	1	1					m	Br	Peat	
11-12	12	1	2					m	Br	Peat Br Red tr Silty clay	
12-13	13	4	5					m	Br	clay tr of Peat	
13-14	14	1	1								
14-15	15	1	1						Br	Silty clay some peat	

BoB 15

NOTATION: SIZE CORE N/A
 SIZE SHELBY TUBE N/A
 SIZE AUGER 6 1/4
 N = No. blows to drive "spoon" "with" lb. pin wt. falling "per blow."
 C = No. blows to drive "casing" "with" lb. weight falling "per blow."

SOIL CLASSIFICATIONS BY: _____
 IF OTHER SPECIAL EQUIPMENT HAS BEEN EMPLOYED PLEASE NOTE: _____

FILL OUT BACK OF LOG AND SIGN YOUR NAME

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2622395

PERMIT NO. 26-7910

APPLICATION NO. _____

COUNTY Essex

WELL RECORD

1. OWNER KOPPERS CO. INC. ADDRESS _____
Owner's Well No. PU2A SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION Lot: _____ Block: _____ Municipality: Newark
3. DATE COMPLETED 8/12/85 DRILLER Empire Soils Investigations
4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 5 Feet
5. CASING: Type PVC Diameter 2 inches Length 3 Feet
6. SCREEN: Type PVC Size of Opening 10 SCOT Diameter 2 inches Length 2 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation _____
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY Walter Kottu Date 8/12/85
Supervisor: Gerald Malack #1167

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

26.22.395

26-1910

WEATHER		TEMP		TIME		ESI		HOLE NO. <u>DN 26</u>			
						FIELD LOG		GRD. ELEV. _____			
								G.W. DEPTH _____			
PROJECT <u>Port Mabel</u>						LOCATION <u>Copper</u>					
Sample	SAMPLE NO.	BLOWS ON SAMPLER					BLOWS ON CASING C	MOISTURE	COLOR	CLASSIFICATION OF MATERIAL DRILLED	OTHER DATA
		0	6	12	18	N					
0-1	1	1	5							Bl gr m-f sand to silt fill	
1-2	2	20	6							Br gr tr silt m-f sa oily fill	
2-3	3	12	19							Br gr tr silt m-f sa oily fill	
3-4	4	12	5							Br gr tr silt m-f sa oily	
4-5	5	4	7							Br gr tr silt m-f sa oily	
5-6	6	2	0							some	
6-7	7	2	3							Red Red Br silt clay m-f sand oily	
7-8	8	3	7							Red Red Br silty clay m-f sand oily	
8-9	9	3	1							Red Red Br silty clay m-f sand	
9-10	10	2	4							green br silty clay tr m-f sand to peat	
10-11	11	1	1							no rec	
11-12	12	1	1							Dark Br. silty clay = peat	
12-13	13	1	1							peat = Dark Br	
13-14	14	1	1							Dead	
14-15	15	1	1							no rec tried twice	

NOTATION:

SIZE CORE

N/A

SIZE SHELBY TUBE

N/A

SIZE AUGER

6 1/4

N = No. blows to drive

" spoon

" with

1b. pin wt. falling

" per blow.

C = No. blows to drive

" casing

" with

1b. weight falling

" per blow.

SOIL CLASSIFICATIONS BY:

IF OTHER SPECIAL EQUIPMENT HAS BEEN EMPLOYED PLEASE NOTE:

FILL OUT BACK OF LOG AND SIGN YOUR NAME

FOR MONITORING
PURPOSES ONLY

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2622395

26-7911

PERMIT NO. _____

APPLICATION NO. _____
Essex

COUNTY _____

WELL RECORD

1. OWNER KOPPERS CO. INC. ADDRESS _____
Owner's Well No. PW2B SURFACE ELEVATION _____ Feet
(Above mean sea level)
2. LOCATION Lot: _____ Block: _____ Municipality: Newark
3. DATE COMPLETED 8/12/85 DRILLER Empire Soils Investigations
4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 10 Feet
5. CASING: Type PVC Diameter 2 inches Length 8 Feet
6. SCREEN: Type PVC Size of Opening 10 SLOT Diameter 2 inches Length 2 Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet
- Geologic Formation _____
- Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY Walter Kettler Date 8/12/85
Supervisor: Gerald Malach #1167

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2622395

PERMIT NO. 26-7912

APPLICATION NO. _____

Essex

COUNTY _____

FOR MONITORING
PURPOSES ONLY

WELL RECORD

1. OWNER KOPPERS CO. INC. ADDRESS _____

Owner's Well No. PN2C SURFACE ELEVATION _____ Feet
(Above mean sea level)

2. LOCATION Lot: _____ Block: _____ Municipality: Newark

3. DATE COMPLETED 8/12/85 DRILLER Empire Soils Investigations

4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 15 Feet

5. CASING: Type PVC Diameter 2 inches Length 13 Feet

6. SCREEN: Type PVC Size of Opening 10 SLOT Diameter 2 inches Length 2 Feet

Range in Depth { Top _____ Feet
Bottom _____ Feet

Geologic Formation _____

Tail Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute

Static water level before pumping _____ Feet below surface

Pumping level _____ feet below surface after _____ hours pumping

Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped _____ How measured _____

Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT:

Type _____ Mfrs. Name _____

Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches

10. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY Walter Kottus Date 8/12/85

Supervisor: Ghad Malak #1167

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO 2610243-9
APPLICATION NO _____
COUNTY Essex

WELL RECORD

1. OWNER Tidewater Bailing Corporation ADDRESS Newark, New Jersey

Owner's Well No. MW-3 SURFACE ELEVATION _____ Feet:
(Above mean sea level)

2. LOCATION Lot: 2 Block: 2487

3. DATE COMPLETED 2-25-87 DRILLER EMPIRE SOILS INVESTIGATIONS, INC.

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 9.0' Feet:

5. CASING: Type PVC Diameter 4 inches Length 3.0' Feet:

6. SCREEN: Type PVC Size of Opening 010 Diameter 4 inches Length 6.0' Feet:

Range in Depth { Top _____ Feet
Bottom _____ Feet: Geologic Formation _____

7. Well Piece: Diameter _____ inches Length _____ Feet

8. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface

9. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet: Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____

10. PERMANENT PUMPING EQUIPMENT.
Type _____ Mfr. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

11. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

12. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ OF.

13. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)


14. SOURCE OF DATA _____

15. DATA OBTAINED BY Chris O'Shaughnessy & Supervisor: Jerry Date April 13, 1987
Malack #1167

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

DATE	TIME	DRILLED FROM	DRILLED TO	WEATHER	TEMP
2-25-87	9:30	9'30	11'00	Sunny	35

EMPIRE



FIELD LOG

HOLE NO. B4-3

GRD. ELEV. _____

FIELD LOG

PROJECT TIDWATER BORING CO2P
LOCATION NEWARK

[illegible]

NOTATION: SIZE AUGERS/CASING 6 1/4" SIZE SPOON 2"
 SIZE THIN-WALLED TUBE _____ SIZE CORE _____

FILL OUT BACK OF LOG AND SIGN YOUR NAME

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO 2610244
APPLICATION NO _____
COUNTY Essex

WELL RECORD

1. OWNER Tidewater Bailing Corporation ADDRESS Newark, New Jersey
Owner's Well No. MW-4 SURFACE ELEVATION _____ Feet:
(Above mean sea level)
2. LOCATION Lot: 2 Block: 2487
3. DATE COMPLETED Feb. 24, 1987 DRILLER EMPIRE SOILS INVESTIGATIONS, INC.
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 13.0' Feet:
5. CASING: Type PVC Diameter 4 inches Length 3.0' Feet:
6. SCREEN: Type PVC Size of Opening 210 Diameter 4 inches Length 10.0' Feet:

Range in Depth { Top _____ Feet
Bottom _____ Feet
Geologic Formation _____

Tap Piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
Water rises to _____ Feet above surface

8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT.

Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Motor on Pump _____ Size _____ inches

10. USED FOR _____ AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER _____ Sample: Yes _____ No _____
Taste _____ Odor _____ Color _____ Temp. _____ of.

12. LOG _____ Are samples available? _____
(One sketch on back of sheet or on separate sheet. If electronic log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY Chris O'Shaughnessy & Supervisor: Jerry Date April 13, 1987
Malack #1167

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated,
analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Co-ord # 26.23.14/
PERMIT NO. 2609501-7

APPLICATION NO. _____

COUNTY Essex

FOR MONITORING PURPOSES ONLY.

WELL RECORD

1. OWNER CBS Urban Renewal Corporation ADDRESS 51 W. 52nd St., New York, N.Y.
Owner's Well No. CBSW1 SURFACE ELEVATION 13.9 Feet
(Above mean sea level)
2. LOCATION Municipality of Newark, Lot #1, Block 5060
3. DATE COMPLETED 9/25/86 DRILLER Jersey Boring and Drilling
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH _____ Feet
5. CASING: Type _____ Diameter _____ inches Length _____ Feet
6. SCREEN: Type _____ Size of Opening _____ Diameter _____ inches Length _____ Feet
- Range in Depth { Top _____ Feet
Bottom _____ Feet Formation _____
- Tail Piece: Diameter _____ Feet
7. WELL FLOWS NATURALLY _____ Feet above surface
Water rises to _____ surface
8. RECORD OF TEST: L _____ Yield _____ Gallons per minute
Static water level before _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR Monitoring AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER Laboratory Tests conducted, Results on file. Sample: Yes X No _____
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG Attached Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA CBS Inc., New York, NY 10036
14. DATA OBTAINED BY Dan Raviv Associates, Inc. Date June 12, 1987
West Orange, New Jersey 07052

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

CO-ORD. # 20.23.147

PERMIT NO. 2609504

APPLICATION NO _____

COUNTY Essex

FOR MONITORING PURPOSES ONLY

WELL RECORD

1. OWNER CBS Urban Renewal Corporation ADDRESS 51 W. 52nd St., New York, N.Y.
Owner's Well No. CBSW2 SURFACE ELEVATION 16.1 : _____ Feet:
(Above mean sea level)
2. LOCATION Municipality of Newark, Lot #1, Block 5060
3. DATE COMPLETED 9/29/86 DRILLER Jersey Boring and Drilling
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH _____ Feet
5. CASING: Type _____ Diameter _____ inches Length _____ Feet
6. SCREEN: Type _____ Size of Opening _____ meter _____ inches Length _____ Feet
Range in Depth { Top _____ F
Bottom _____
Tail Piece: Diameter _____ Feet
_____ Feet above surface
7. WELL FLOWS NATURAL
Water rises to _____
8. RECORD OF TEST: Da _____ Yield _____ Gallons per minute
Static water level before pu _____ Feet below surface
Pumping level _____ below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR Monitoring AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER Results on file. Laboratory Tests conducted, Sample: Yes X No _____
Taste _____ Odor _____ Color _____ Temp. _____ OF.
12. LOG Attached Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA CBS Inc., New York, NY 10036
14. DATA OBTAINED BY Dan Raviv Associates, Inc. Date June 12, 1987
West Orange, New Jersey 07052

SEE REVERSE SIDE

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

CO-ORD. # 2012011
PERMIT NO. 2609505-0
APPLICATION NO. _____
COUNTY Essex

FOR MONITORING PURPOSES ONLY

WELL RECORD

1. OWNER CBS Urban Renewal Corporation ADDRESS 51 W. 52nd St., New York, N.Y.
Owner's Well No. CBSW3 SURFACE ELEVATION 11.9 Feet
(Above mean sea level)
2. LOCATION Municipality of Newark, Lot #1, Block 5060
3. DATE COMPLETED 9/30/86 DRILLER Jersey Boring and Drilling
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH _____ Feet
5. CASING: Type _____ Diameter _____ inches Length _____ Feet
6. SCREEN: Type _____ Size of Opening _____ meter _____ inches Length _____ Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Feet above surface
Water rises to _____ surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pump _____ Feet below surface
Pumping level _____ Feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR Monitoring AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER laboratory Tests conducted, Results on file. Sample: Yes ☒ No _____
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG Attached Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA CBS Inc., New York, NY 10036
14. DATA OBTAINED BY Dan Raviv Associates, Inc. Date June 12, 1987
West Orange, New Jersey 07052

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

CU-070. 7 20.25.147

PERMIT NO. 2609507-6

APPLICATION NO. _____

COUNTY Essex

FOR MONITORING PURPOSES ONLY.

WELL RECORD

1. OWNER CBS Urban Renewal Corporation ADDRESS 51 W. 52nd St., New York, N.Y.
Owner's Well No. CBSW4 SURFACE ELEVATION 13.5 Feet
(Above mean sea level)
2. LOCATION Municipality of Newark, lot #1, Block 5060
3. DATE COMPLETED 9/30/86 DRILLER Jersey Boring and Drilling
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH _____ Feet
5. CASING: Type _____ Diameter _____ inches Length _____ Feet
6. SCREEN: Type _____ Size of Opening _____ ter _____ inches Length _____ Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet
Tail Piece: Diameter _____ Feet
7. WELL FLOWS NATURALLY _____ Feet above surface
Water rises to _____
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pump, _____ Feet below surface
Pumping level _____ below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR Monitoring AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER laboratory Tests conducted, Results on file. Sample: Yes X No _____
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG Attached Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA CBS Inc., New York, NY 10036
14. DATA OBTAINED BY Dan Raviv Associates, Inc. Date June 12, 1987
West Orange, New Jersey 07052

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 2609502-5

APPLICATION NO. _____

COUNTY Essex

FOR MONITORING PURPOSES ONLY.

WELL RECORD

1. OWNER CBS Urban Renewal Corporation ADDRESS 51 W. 52nd St., New York, N.Y.
Owner's Well No. CBSW5 SURFACE ELEVATION 12.1 Feet
(Above mean sea level)
2. LOCATION Municipality of Newark, Lot #1, Block 5060
3. DATE COMPLETED 9/31/86 DRILLER Jersey Boring and Drilling
4. DIAMETER: Top _____ inches Bottom _____ inches TOTAL DEPTH _____ Feet
5. CASING: Type _____ Diameter _____ inches Length _____ Feet
6. SCREEN: Type _____ Size of Opening _____ inches Length _____ Feet
Range in Depth { Top _____ Feet
Bottom _____ Feet
Tail Piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Feet above surface
Water rises to _____ surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
Static water level before pump _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How pumped _____ How measured _____
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type _____ Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Monitoring AMOUNT { Average _____ Gallons Daily
Maximum _____ Gallons Daily
11. QUALITY OF WATER laboratory Tests conducted, Results on file. Sample: Yes X No _____
Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG Attached Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA CBS Inc., New York, NY 10036
14. DATA OBTAINED BY Dan Raviv Associates, Inc. Date June 12, 1987
West Orange, New Jersey 07052

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

ATTACHMENT 3

ENVIRONICS WELL INSTALLATION DATA

SOIL BORINGS & MONITORING WELLS

CENTRAL STEEL DRUM COMPANY


704 DOREMUS AVENUE

NEWARK, NJ 07105

Prepared by


JOHN BEE, C.P.G., Senior Geologist/Geohydrologist

Reviewed by


JOHN R. BURGER, C.H.C.M., Vice President

For

Alan Fischer

CENTRAL STEEL DRUM COMPANY

June 1, 1984

BACKGROUND INFORMATION

This investigation was developed at the request of Mr. Alan Fischer of Central Steel Drum Co. following discussions concerning the site between Central Steel Drum Co., the New Jersey Department of Environmental Protection (NJDEP), and Environics, Inc.

During these discussions, it was agreed that Environics, Inc. would prepare and implement a soil boring investigation and install eight (8) nested monitoring wells in locations specified by the NJDEP. Further, it was agreed that these wells would be surveyed, and the groundwater sampled, for priority pollutants, plus 40 (tentatively identified) organic non-priority pollutant compounds (Appendix A).

Subsequently, Environics, Inc. obtained a quotation from Diamond Drilling Inc. and the field work was completed between May 16-18, 1984, under the review of Mr. Walter S. Samsel, a Geologist with the Division of Water Resources, NJDEP.

The Project Geologist assigned to this work is Mr. John Bee, and the Quality Assurance Manager is Mr. John R. Burger.

Operation:

The facility is currently engaged in the reconditioning of steel drums that involves the handling of legally empty drums* that are incinerated on site for removal of surface coatings. The above mentioned drums are stacked above ground throughout the site, and following removal of surface coatings, the drums are sand-blasted and reshaped, tested and coated prior to re-sale.

* "Empty drums" as defined by NJAC 7:26-8.4(b) i

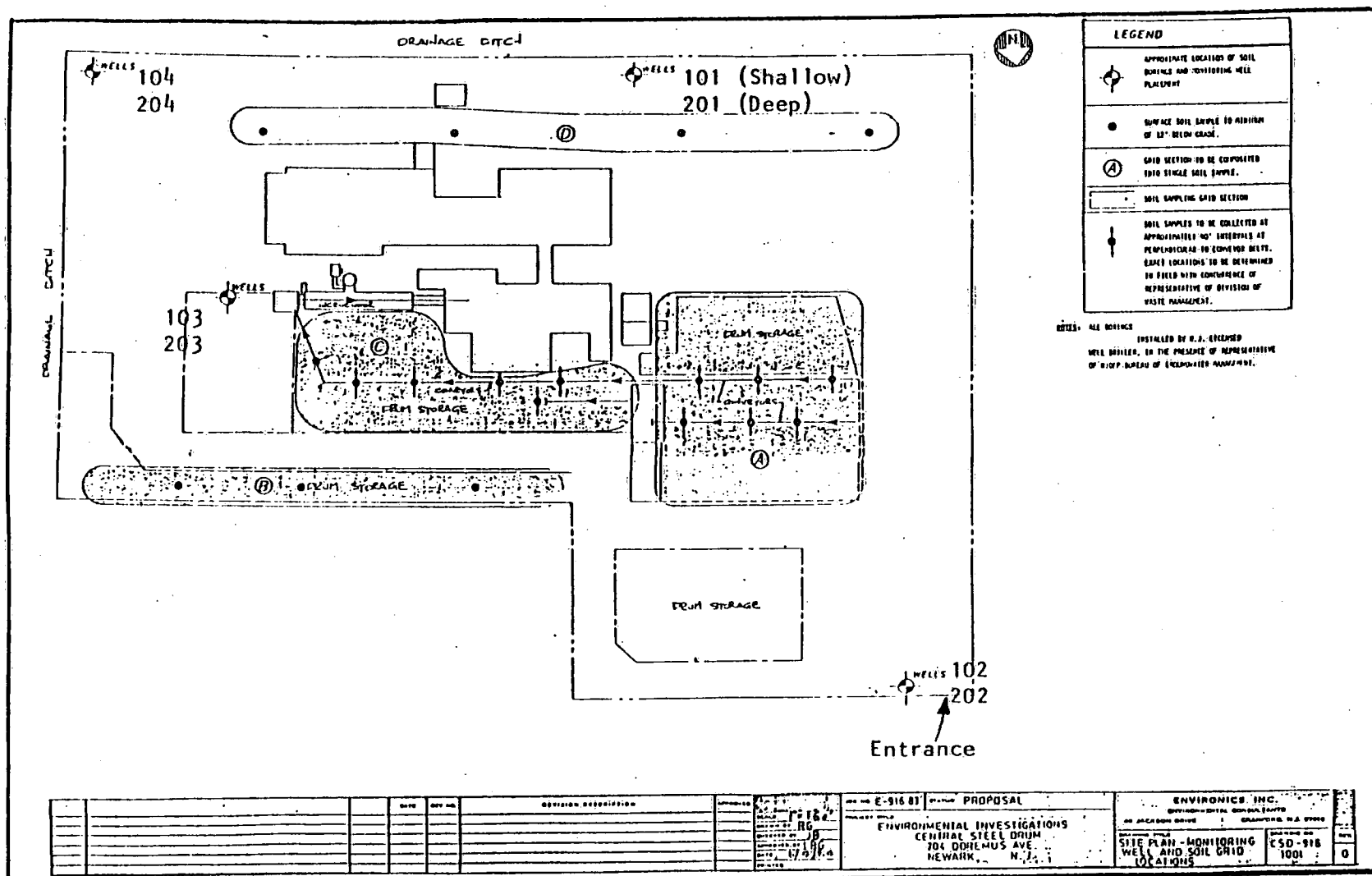


Figure 1. Site Plan of Monitoring Wells, Central Steel Drum.

METHOD OF INVESTIGATION

Between May 16-18, 1984, a Professional Geologist of Enviro-nics, Inc. supervised the drilling of four (4) soil borings and the installation of eight (8) monitoring wells as nested pairs at the four locations illustrated in Figure #1. These plotted positions are approximations pending a survey of location and elevation by a Professional Land Surveyor.

Soil Borings:

Continuous soil samples were taken from the ground surface to approximately 25' in each of four locations (denoted in Figure #1), prior to the installation of nested monitoring wells (see Section II for borehole logs). The boreholes were drilled by Diamond Drilling using 6" and 8" diameter solid stem augers. The borehole was advanced behind the split spoon sampler through the water-table aquifer contained in a surficial fill layer until the hole was several feet into a dark gray-brown clay below the fill. At this time a 6" or 8" casing was driven or pushed into the gray-brown clay. Care was taken to obtain a watertight seal, preventing contaminant migration from the surficial water-table aquifer into the confined aquifer below the clay. Before penetrating the sands of the confined aquifer below the clay, the casing and hole were augered out and bailed to remove any oil-soaked debris or fill from the hole. Thus no slug of contaminated water was introduced into the lower aquifer. While solvent odors

and discolored water were noted during drilling through the water-table aquifer, no solvent odor was noted in the soil samples below the gray-brown clay.

Monitoring Well Installation

The well nests, at each of the four locations illustrated in Figure 1, conformed to the specifications illustrated in Figures 2A and 2B. Each well nest consisted of:

- 1) A deep well (numbered 201-204) screened at approximately 19'-24' depth in the confined red-brown fine sand and silt aquifer below the gray-brown clay layer. Graded Moire gravel was emplaced around the well screens to one foot above the screen and a one-foot-thick granular bentonite seal was poured above the gravel pack. To isolate the well screen, the annular space above the bentonite seal was filled with cement grout emplaced in two pours initially using a tremie pipe. The casing driven into the gray-brown clay remains in place, sealing the water-table aquifer above the gray-brown clay from the red-brown sand and silt aquifer.
- 2) Drilled next to the deep well, a shallow well (numbered 101-104) was installed, screened through the saturated surficial fill layer of the water-table aquifer that varied from 4' to 10'-6" thick. Care was taken to screen the shallow monitoring well 6" above the water-table to intercept any floating layer on the water-table.

A locking steel cap was set in cement over the top of the riser pipe that was fitted with a screw cap.

A breather hole was drilled at the top of the riser pipe to allow the well to provide a true response to barometric pressure.

Each well was developed using a diaphragm pump and three well volumes were removed from each of the wells. A clear discharge could not be obtained from the shallow wells but was obtained from the deep wells.

Quality Control

Quality control samples were taken of all additives to the well: gravel pack, cement and granular bentonite. These samples were not, however, screened for impurities as an analysis protocol had not been defined by the NJDEP. Soil augers were cleaned between holes with a steam jenny, and all casing introduced into the boreholes was similarly cleaned. The depth of wells was measured along with other vital statistics after construction. Concern was repeatedly raised by the NJDEP representative as to the consistency of cement used in backfilling the wells. The driller was prevailed upon to mix the cement to specifications. Locking caps, affixed to the wells, assured sample integrity.

Water Level Measurements:

On May 18, 1984, and May 31, 1984, water levels were taken from the top of the inner casing of each well, using a steel tape. These water levels are plotted on Table 1 below:

Table 1. SUMMARY OF MONITORING WELL CONSTRUCTION/WATER LEVEL MEASUREMENTS

Client	<u>CENTRAL STEEL DRUM COMPANY</u>	Measured by	<u>John Bee, C.P.G.</u>
Location	<u>704 Doremus Avenue</u>	Measured w/	<u>Steel tape</u>
	<u>Newark, N.J.</u>	Measuring point	<u>Top of inner casing</u>

WELL NO.	WELL DIAM. (inches)	TOP OF OUTER CASING ELEV. (feet)	STICKUP	TOP OF INNER CASING ELEV. (feet)	STICKUP	TOTAL CASING/SCREEN LENGTH (feet)	BOTTOM OF WELL FROM GL (feet)	SCREEN SETTING (specs)	REMARKS
01	2"		1.0			22.7	21.0	18'-23'	Lock affixed
01	4"		3.1			5.9	2.9	1'-4'	Lock affixed
02	2"		3.0			26.6	23.8	19'-24'	Lock affixed
02	4"		1.3			10.4	9.4	6"-9'6"	Lock affixed
03	4"		0			24.4	24.4	22'-27'	Lock affixed
03	4"		-.4			3.8	4.2	6"-5'6"	Lock affixed
04	4"		.8			25.8	25.2	20'-25'	Lock affixed
04	4"		1.8			11.0	9.4	6"-10'6"	Lock affixed

DATE	TIME to	WELL #	PUMP RATE Q	TIME	ELEV. TOC	D.T.W.	ELEV. WATER LEVEL	s	t	REMARKS Approx. Depth Wat. Below GL (feet)
5/18/84	0835	201				7.00				6.00
5/31/84	1032					6.35				5.55
5/18/84	0840	101				4.59				2.85
5/18/84	0805	202				3.48				.31
5/31/84	0905					9.45				6.45
5/31/84	0905					8.88				6.15
5/18/84	0800	102				1.89				-0.64
5/31/84	0915	203				.48				+ .64
5/31/84	0920	103				5.94				6.24
5/18/84	0832	204				0.1				0.1
5/31/84	1024					5.63				4.83
5/18/84	0820	104				5.05				4.55
5/18/84	0820					2.52				.77

FINDINGS

Soils:

The soils identified on the site form three major horizontal divisions:

- 1) A loose, black-to-dark brown, sandy, silty, clay fill with occasional to frequent fine to medium gravel. This fill layer blanketed the whole site and appeared oil soaked at locations 203/103 and 204/104. The layer varied in depth from four feet at location 201/101 to 12 feet at 204/104 and comprised the water-table aquifer. This fill layer rested unconformably upon a clay layer.
- 2) The depth of the change from the fill to the top of the clay layer was the only transition that changed appreciably with location at the site. In Borehole 204, where the fill was only four feet thick, a gray-brown sandy, silty clay was observed above the black or dark brown to dark gray silty clay that was present in all boreholes. This dark gray-brown clay was from seven feet to 13 feet thick, depending upon location. The base of the clay was consistently found at 17 to 20 feet below ground level.

The gray-brown clay, while containing occasional roots, was cohesive and smearing and formed intact seals with the drilling casing employed, and appeared to function as an

aquitard. The boreholes were consistently dry in this horizon. The transition into a red-brown sand and silt aquifer below was marked in Boreholes 201, 203, and 204 by a dark brown organic, spongy, clay silt some 3-6 inches thick, above a dark gray or brown to gray-green silty fine sand to silty clay some 1-2 feet thick.

- 3) At approximately 20 feet below ground surface throughout the site, a confined red-brown fine sandy silt to silty fine sand aquifer was encountered.

Groundwater:

From water levels taken in the nested piezometers installed in the water-table aquifer and in the confined aquifer, a differential head was consistently noted in all well nests. The potentiometric head in the shallow aquifer was three feet higher in the shallow aquifer at 101 than in the deep aquifer at 201, six feet higher in 102 and 103, and four feet higher in 104. Thus groundwater would tend to move down through the clay aquitard at a rate determined by the differential heads and hydraulic conductivity of the clay.

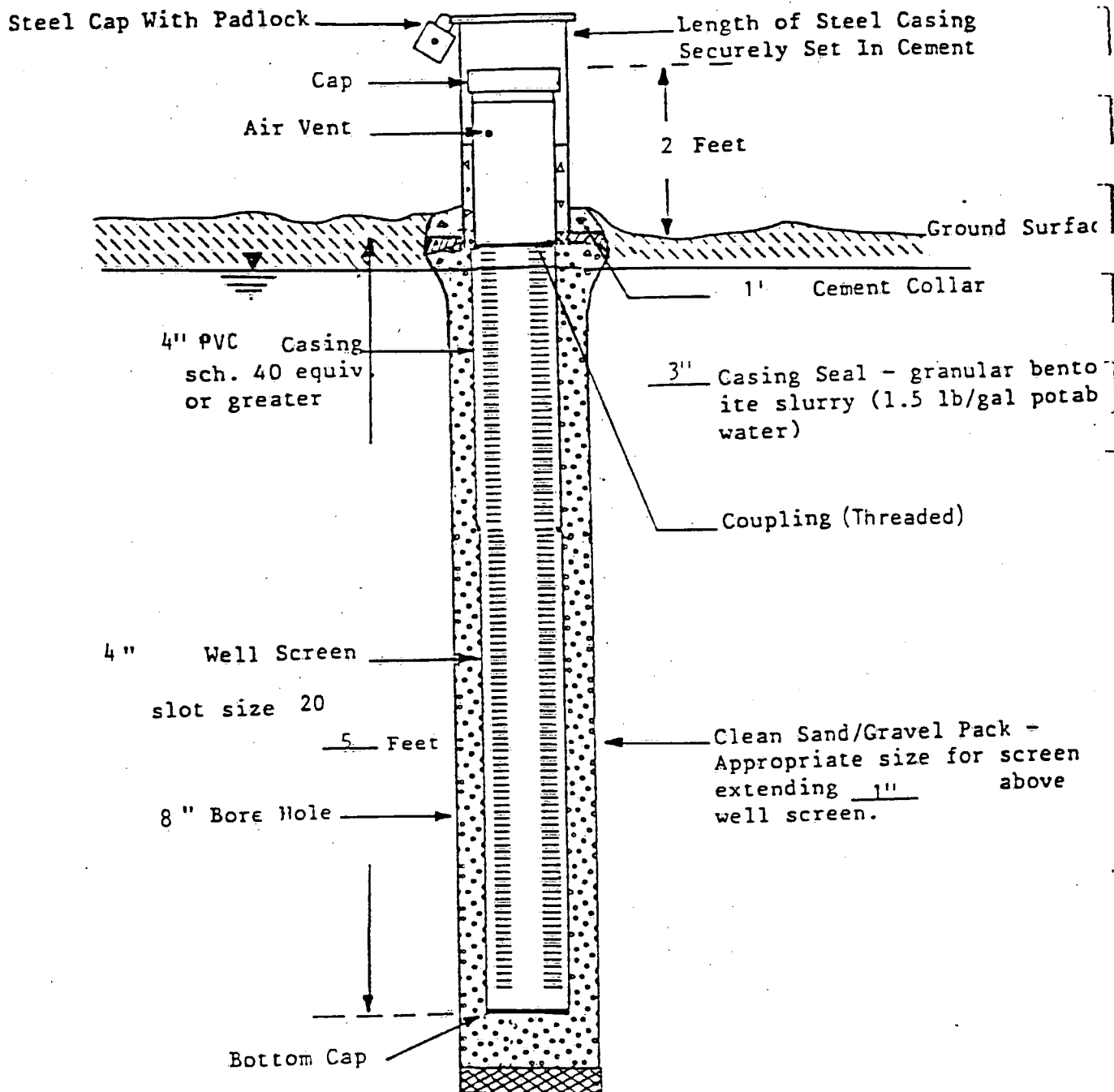
Contouring of the potentiometric heads in the aquifers, to determine flow direction, awaits surveying of the elevation and location of the well heads of the monitoring wells.

Unconsolidated Monitor Well Specifications

Name: Central Steel Drum

Location: Newark

Date: May 16-18, 1984



Modified to collect floating layer @ water table

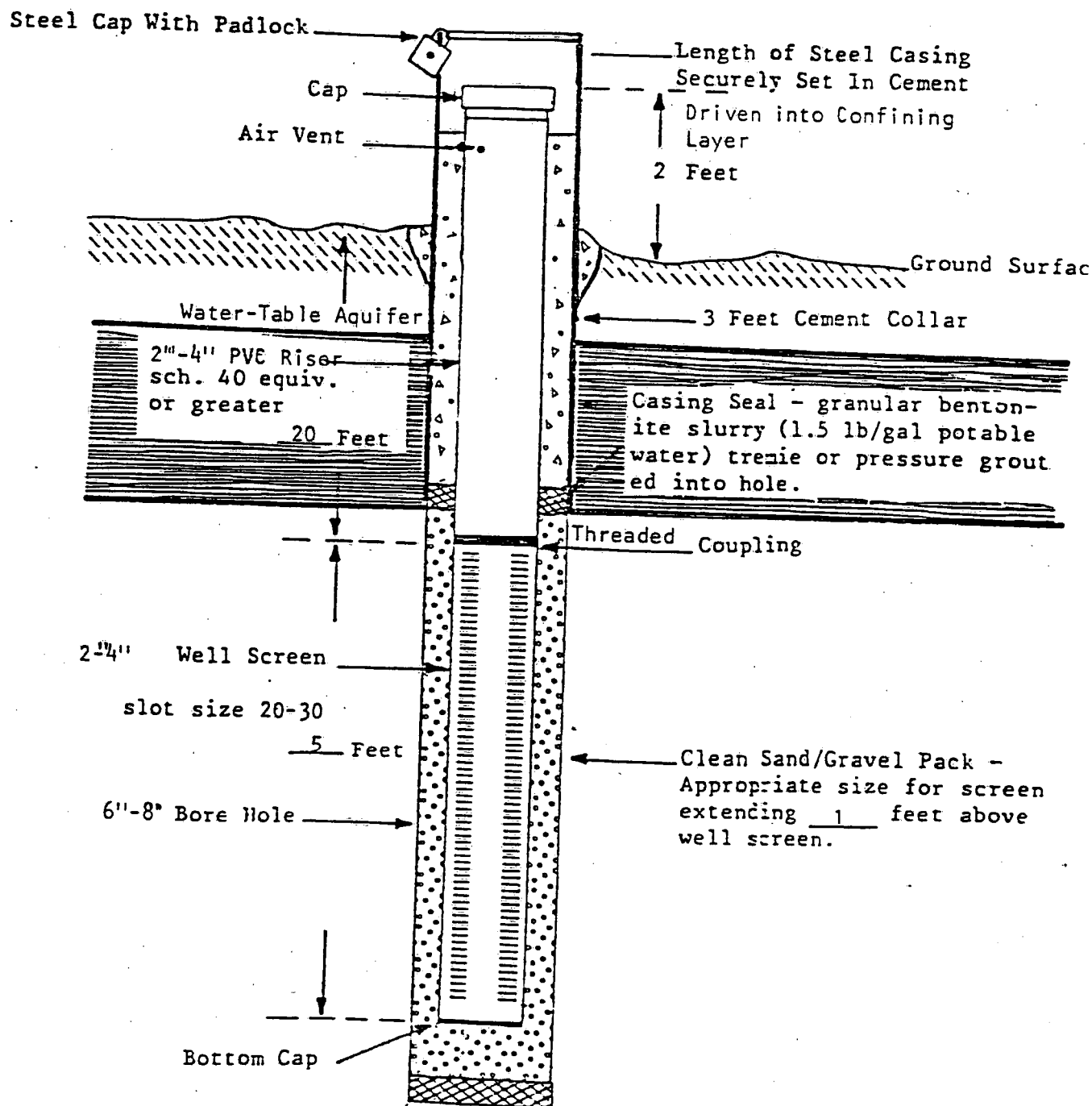
NOT TO SCALE

Unconsolidated Monitor Well Specifications

Well Name: Central Steel Drum

Location: Newark

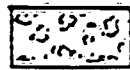
Date: May 16-18, 1984



Modified to seal off screen from water-table aquifer

NOT TO SCALE

KEY TO GRAPHIC LOG SYMBOLS



GRAVEL



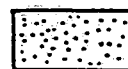
VERY COARSE SAND



COARSE SAND



MEDIUM SAND



FINE SAND



VERY FINE SAND



SILT



CLAY

Project: CENTRAL STEEL DRUM Job #: E916 Drill Hole #: 101Site Area: 704 DOREMUS AVE, NEWARK Elevation (Top of Casing): Contractor: DIAMOND DRILLING Driller: LOU ONTEXElevation (Of Ground): Classified By: JOHN BEE Date: 5/17/84GVL 0 Hrs.: 27" 24 Hrs.: 2.85'
BELOW GROUNDCoordinates N/S: 74° 07' 23" EW: 40° 42' 30"Permit #: 26-6740 Permitting Agency: NJDEPMethod of Drilling: SOLID STEM AUGER INTO WATER TABLEAQUIFER, NESTED WITH #201 (SEE WELL LOG)Additions To Borehole (Bentonite, etc.): MOIRE GRAVEL #1,2,3,4, CEMENTDrilling Reagent Blank (DR): YES, QC SAMPLE HELDWELL CONSTRUCTIONOD/ID Diameter of Casing: NONE Material: Length Left In Hole: OD/ID Diameter of Riser Pipe: 4" DIAM Material: PVCDistance Top of Casing to Bottom of Screen: 5.90'Screen Length, Size, and Type: 3' FROM 1'-4' DEPTH, 4" DIAM., 30 SLOT, PVCPacking - Type: MOIRE GRAVEL #1,2,3,4 Amount: 1'-4' (DF)WELL DEVELOPMENTDistance Top of Casing to Water Table (DTW) 4.59' (2.85' BELOW GL)Submerged Well Volume: Volume of Well Purged: 3 WELL VOLUMES Pumping Rate: 1 GPMPump Used: BRIGGS STRATTON, DIAPHRAGM PUMPSpecific Conductance of Pumped Water - Initial: Stable: Temperature of Pumped Water - Initial: Stable:

DATE 5/17/84

ENVIRONICS INC.
WELL LOG

SHEET 1 OF

PROJECT CENTRAL STEEL DRUM

DRILL HOLE # 201

LOCATION 704 DOREMUS AVENUE, NEWARK

DRILLING CONTRACTOR DIAMOND DRILLING

JOB # E 916

DRILLING METHOD 6" SOLID STEM AUGER W/CASING TO

GEOLOGIST JOHN BEE

CONFINING LAYER, CASED OFF, AUGERED TO 2ND AQUIFER

WELL CONSTRUCTION

PERMIT # 26 - 6739 AGENCY NJDEP

COORDINATES N/S 74° 07' 23" E/W 40° 42' 30"

BOREHOLE # 201

RISER PIPE

CASING

SCREEN SLOT 20

ELEVATION

TOC (MSL)

GROUND ELEV

DEPTH TO WATER 6'

STATIC ELEV

QUALITY CONTROL

ADDITIONS TO WELL

BENTONITE

GRAVEL PACK SIZE MOIRE #1,2,3,4

CEMENT

COMMENTS QC SAMPLE HELD

LOCKED ✓

CLEANING BETWEEN HOLES

AUGER ✓

STEAM CLEANED

SPOON

DEPTH FT.	SAMPLE #	PENETRATION RESISTANCE BLOWS/6"	IN. REC.	SOIL DESCRIPTION DENSITY (OR CONSISTANCY) COLOR SOIL TYPE-ACCESSORIES	REMARKS CHEMICAL COMP. GEOLOGIC DATA GROUND WATER
X	S1	24 64	20	BLACK SANDY SILTY CLAY FILL w/ FINE TO MEDIUM GRAVEL	WATER @ 27"
X	S2	1 1 1	20	4'	STATIC WATER 2.85' 1-4'
X	S3	WEIGHT OF HAMMER	18	6' GRAY BROWN SILTY, SANDY CLAY	BELOW GL 5/18/84, 0840, IN # 101
X	S4	WH 1 WH 1	24	BLACK TO DARK GRAY SILTY CLAY w/OCCASIONAL ROOTS; VERY	STATIC WATER 6.00' BELOW GL IN # 201, 5/18/84, 0835.
X	S5	WH 1 WH 1	24	COHESIVE, SHEARING BELOW 10'	w/ HOLE AUGERED TO 8' PUSHED 10' STEEL CASING TO 9' INTO CLAY, BOREHOLE DRY, AUGERED OUT 4'-17', GOOD SEAL.
X	S6	WH 1 WH 1	24		1
X	S7	1 1 1	24		
X	S8	12 22	24	6" ORGANIC TRANSITION ZONE FINE SAND/ 17' CLAY SILT @ 16' 6"	BOREHOLE MOIST BELOW 17'
X	S9	24 44	24		
X	S10	69 14 21	24	DARK GRAY SILTY FINE SAND, MOIST 19' 6"	STRUCK WATER @ 20'
X	S11	89 10 10	20	RED BROWN FINE SANDY SILT, TRACE CLAY, MOIST w/ ALTERNATING BANDS OF RED BROWN SILTY FINE SAND 20'-21' 9"	2", 20 SLOT, THREADED PVC SCREEN SET 18'-23'
X	S12	77 9 11	21		MOIRE GRAVEL 24'-17'
					BENTONITE GRANULAR SEAL 16'-17'

GRAPHIC LOG
U.S.C.S.

Project: CENTRAL STEEL DRUM Job #: E 916 Drill Hole #: 102Site Area: 704 DOREMUS AVE, NEWARK Elevation (Top of Casing): Contractor: DIAMOND DRILLING Driller: LOU ONTEKElevation (Of Ground): Classified By: JOHN BEE Date: 5/16/84GWL 0 Hrs.: 24 Hrs.: Coordinates N/S: 74° 07' 23" EW: 40° 42' 30"Permit #: 26-6738 Permitting Agency: NJDEPMethod of Drilling: SOLID STEM AUGER INTO WATER TABLEAQUIFER, NESTED WITH #202 (SEE WELL LOG)Additions To Borehole (Bentonite, etc.): MOIRE GRAVEL, CEMENTDrilling Reagent Blank (DR): YES, QC SAMPLE HELDWELL CONSTRUCTIONOD/ID Diameter of Casing: NONE Material: -Length Left In Hole: -OD/ID Diameter of Riser Pipe: 4" DIAM Material: PVCDistance Top of Casing to Bottom of Screen: 10.4'Screen Length, Size, and Type: SCREEN 9' LONG FROM 9'6"-6", CEMENT 6"-MOUNDED
30 SLOT, PVC, 4" DIAMPacking - Type: SLUMPED GRANULAR FILL Amount: 9'6"-6" (DR)WELL DEVELOPMENTDistance Top of Casing to Water Table (DTW) 1.89' (0.64' BELOW GL)Submerged Well Volume: Volume of Well Purged: 3 WELL VOLUMES Pumping Rate: 1 GPMPump Used: BRIGGS & STRATTON DIAPHRAGM PUMPSpecific Conductance of Pumped Water - Initial: - Stable: -Temperature of Pumped Water - Initial: - Stable: -

DATE 5/16/84

ENVIRONICS INC. WELL LOG

SHEET 1 OF

OBJECT CENTRAL STEEL DRUM

DRILL HOLE # 202

LOCATION 704 DOREMUS AVENUE, NEWARK

DRILLING CONTRACTOR DIAMOND DRILLING

JOB # E916

DRILLING METHOD 6" SOLID STEM AUGER W/CASING TO

LOGIST JOHN BEE

CONFINING LAYER, CASED OFF, AUGERED INTO 2ND AQUIFER

WELL CONSTRUCTION

PERMIT # 26-6737 AGENCY NJ DEP

COORDINATES N/S 74° 07' 23" E/W 40° 42' 30"

BREM HOLE # 202

QUALITY CONTROL

USER PIPE

ADDITIONS TO WELL

CASING

BENTONITE

SCREEN SLOT 20 2" 5' PVC

GRAVEL PACK SIZE MOIRE #1,2,3,4

CEMENT

TREMIED IN

ELEVATION

COMMENTS

LOCKED

TOC(MSL)

GROUND ELEV

DEPTH TO WATER 6.45'

STATIC ELEV

CLEANING BETWEEN HOLES

AUGER

SPOON

STEAM

DEPTH FT.	SAMPLE #	PENETRATION RESISTANCE BLOWS/6"	IN. REC.	SOIL DESCRIPTION DENSITY (OR CONSISTANCY) COLOR SOIL TYPE-ACCESSORIES	REMARKS CHEMICAL COMP. GEOLOGIC DATA GROUND WATER STRIKEUP
	S1		Flow AUGER	DARK BROWN CLAYEY, SILTY, SANDY FILL, OCCASIONAL 1" GRAVEL, WET	WATER @ 6" STATIC WATER @ 0.64' BELOW G. 5/18/84, 0805 IN # 102
	S2	111	4		STATIC WATER @ 6.45' BELOW G. 5/18/84, 0800 IN # 202
				9'8"	DROVE CASING TO 10', BAILED HOLE
	S3	2322	4	DARK BROWN CLAYEY SILT TO SILTY CLAY, W/ROOTS, COHESIVE, SMEARING, MOIST TO WET	DRY, SPOON HOLE TO 18', DROVE CASING TO 14', BAILED HOLE TO 12'5", DRILLED OUT, DRY CUTTINGS TO 18'. GOOD SEAL
	S4	1233	6		
	S5	1123	15	STRONG ORGANIC SOLVENT ODOR @ 14'-16', MOIST	
	S6	3258	6		
				17'9"	GRAY CUTTINGS ON AUGER 17'9"
	S7	OWN WEIGHT	6	LIGHT GRAY BROWN SILTY FINE SAND 20' MOIST	2", 20 SLOT PVC, THREADED SCREEN SET @ 19'-24'
	S8		20	RED BROWN SILTY FINE SAND, MOIST W/ 4" BAND RED & GRAY MOTTLED MEDIUM SAND @ 23'	MOIRE GRAVEL 25'-18' BENTONITE GRANULAR SEAL 17'-18'
	S9	3245	17		

GRAPHIC LOG #202

Project: CENTRAL STEEL DRUM Job #: E916 Drill Hole #: 103

Site Area: 704 DOREMUS AVE, NEWARK Elevation (Top of Casing):

Contractor: DIAMOND DRILLING Driller: LOU ONTEX

Elevation (Of Ground):

Classified By: JOHN BEE Date: 5/18/84

GWL 0 Hrs.: 24 Hrs.:

Coordinates N/S: 74° 07' 23" EW: 40° 42' 30"

Permit #: 26-6744 Permitting Agency: NJ DEP

Method of Drilling: SOLID STEM AUGER INTO WATER TABLE

AQUIFER, NESTED WITH #203 (SEE WELL LOG)

Additions To Borehole (Bentonite, etc.): NOIRE GRAVEL, CEMENT

Drilling Reagent Blank (DR): YES, QC SAMPLE HELD

WELL CONSTRUCTION

OD/ID Diameter of Casing: NONE Material: -

Length Left In Hole: -

OD/ID Diameter of Riser Pipe: 4" DIAM Material: PVC

Distance Top of Casing to Bottom of Screen: 3.8'

Screen Length, Size, and Type: 5 FT LONG, FROM 5"-5'6", 30 SLOT, PVC
4" DIAM

Packing - Type: NOIRE GRAVEL #1 + SLUMPED Amount: (DR)
GRANULAR FILL

WELL DEVELOPMENT

Distance Top of Casing to Water Table (DTW) +0.1'

Submerged Well Volume:

Volume of Well Purged: 3 WELL VOLUMES Pumping Rate: GPM

Pump Used: BRIGGS & STRATTON, DIAPHRAGM PUMP

Specific Conductance of Pumped Water - Initial: - Stable: -

Temperature of Pumped Water - Initial: - Stable: -

DATE

5/18/84

ENVIRONICS INC.

WELL LOG

SHEET 1 OF

PROJECT CENTRAL STEEL DRUM

DRILL HOLE # 203

LOCATION 704 DOREMUS AVE., NEWARK

DRILLING CONTRACTOR DIAMOND DRILLING

JOB # E 916

DRILLING METHOD 6" SOLID STEM AUGER w/CASING

GEOLOGIST JOHN BEE

TO CONFINING LAYER, CASED OFF, AUGERED INTO 2ND AQUIF.

WELL CONSTRUCTION

	DIAMETER	LENGTH	MATERIAL	THREADED
BOREHOLE	NOMINAL 8"	28'	-	-
RISER PIPE	4" +6-22'	PVC	YES	
CASING	8" +6-15'	STEEL	YES	
SCREEN SLOT	30 4" 22'-27'	PVC	YES	

ELEVATION

TOC(MSL)

GROUND ELEV

DEPTH TO WATER

STATIC ELEV

PERMIT # 26-6743

AGENCY NJDEP

COORDINATES N/S 74° 07' 23" E/W 40° 42' 30"

QUALITY CONTROL

ADDITIONS TO WELL

BENTONITE

GRANULAR

19-20'

GRAVEL PACK SIZE

MOIRE #1,2,3,4 20-28'

CEMENT SAYLOS TYPE 3

TREMIED IN

19-0'

COMMENTS QC SAMPLE HELD LOCKED YES

CLEANING BETWEEN HOLES

AUGER YES
STEAM

SPOON YES

DEPTH FT.	SAMPLE #	PENETRATION RESISTANCE BLOWS/6"	IN. REC.	SOIL DESCRIPTION DENSITY (OR CONSISTANCY) COLOR SOIL TYPE-ACCESSORIES	REMARKS CHEMICAL COMP. GEOLOGIC DATA GROUND WATER
				2" LAYER OF 1" DIAM. CRUSHED STONE	STATIC @ .1 BELOW GL #103
X	S1	9	20	DARK GRAY TO BLACK, OIL SOAKED	SOLVENT ODOR FROM 0-10'
		10		SANDY, SILTY, GRANULAR FILL	OIL SOAKED GROUNDWATER @ 10"
X	S2	7	10		
		3			
X	S3	1	10		STATE WATER @ 6.24'
		2			BELOW GL 5/31/84, 0.915
X	S4	2	12	8'	# 203
		3			TO SEAL OFF UPPER AQUIFER:
X	S5	5	0	DARK BROWN SILTY CLAY, WITH	WITH HOLE @ 10', DROVE CASING
		1		ROOTS, MOIST	TO 15'. HOLE AUGERED TO 14',
X	S6	2	15		PUMPED OIL DEBRIS FROM
		2			CASED HOLE: HOLE DRY.
X	S7	2	15		TOOK SAMPLE S8, S9. GOOD
		1			SEAL.
X	S8	1	20		CEMENT TREMIED IN 0-19'
		2			
X	S9	1	20	3" THICK DARK BROWN ORGANIC	BENTONITE SEAL ENPLACED 19'-20'
		2		TRANSITION ZONE @ 18' 9"	
X	S10	1	24		NO SOLVENT ODOR @ 20' IN SOILS
		2			
X	S11	4	0	2' 10" GRAY GREEN SILTY CLAY, MOIST	
		4			
X	S12	4		RED BROWN SILTY MEDIUM	4" DIAM, 30 SLOT SCREEN SET @
		4		SAND ALTERNATING WITH FINE	22'-27'. MOIRE GRAVEL @ 20'-28'
X	S13	4		SANDY CLAYEY SILT @ 25' 6"-26'	BOREHOLE COMPLETED

GRAPHIC LOG

203

U.S.C.S.

Project: CENTRAL STEEL DRUM Job #: E916 Drill Hole #: 104Site Area: 704 DOREMUS AVE, NEWARK Elevation (Top of Casing): Contractor: DIAMOND DRILLING Driller: LOU ONTEKElevation (Of Ground): Classified By: JOHN BEE Date: 5/17/84GWL 0 Hrs.: 24 Hrs.: Coordinates N/S: 74° 07' 23' EW: 40° 42' 30"Permit #: 26-6742 Permitting Agency: NJDEPMethod of Drilling: SOLID STEM AUGER INTO WATER TABLEAQUIFER, NESTED WITH #204 (SEE WELL LOG)Additions To Borehole (Bentonite, etc.): NOIRE GRAVEL, CEMENTDrilling Reagent Blank (DR): YES, QC SAMPLE HELDWELL CONSTRUCTIONOD/ID Diameter of Casing: NONE Material: Length Left In Hole: OD/ID Diameter of Riser Pipe: 4" DIAM Material: PVCDistance Top of Casing to Bottom of Screen: 11'Screen Length, Size, and Type: 10' LONG, FROM 6"-10'6", 30 SLOT, PVC, 4" DIAPacking - Type: NOIRE GRAVEL #1 + SLUMPED Amount: 6"-10'6", CEMENT 6"-11" (DR)
GRANULAR FILLWELL DEVELOPMENTDistance Top of Casing to Water Table (DTW) 2.52' (.77 BELOW CL)Submerged Well Volume: Volume of Well Purged: 3 WELL VOLUMES Pumping Rate: 1 GPMPump Used: BRIGGS & STRATTON DIAPHRAGM PUMPSpecific Conductance of Pumped Water - Initial: Stable: Temperature of Pumped Water - Initial: Stable:

DATE 5/17/84

ENVIRONICS INC. WELL LOG

SHEET 1 OF

PROJECT CENTRAL STEEL DRUM

DRILL HOLE #

204

LOCATION 704 DOREMUS AVE., NEWARK

DRILLING CONTRACTOR DIAMOND DRILLING

JOB # E 916

DRILLING METHOD 8" SOLID STEM AUGER w/CASING

GEOLOGIST JOHN BEE

TO CONFINING LAYER, CASED OFF, AUGERED INTO 2ND AQUIFER

WELL CONSTRUCTION

PERMIT # 26-6741

AGENCY

NJDEP

COORDINATES N/S 74° 07' 23" E/W 40° 42' 30"

QUALITY CONTROL

ADDITIONS TO WELL

BENTONITE

GRANULAR

17'-18'

GRAVEL PACK SIZE NOIRE #1

25'-18'

CEMENT

TREMIED IN

+3'-17'

COMMENTS QC SAMPLES HELD LOCKED ✓

CLEANING BETWEEN HOLES

AUGER ✓

SPOON ✓

BOREHOLE

NOMINAL 8" 25' - -

RISER PIPE

4" +8'-20' PVC YES

CASING

8" +8'-15' STEEL YES

SCREEN SLOT

30 4" 20'-25' PVC YES

ELEVATION

TOC(MSL)

GROUND ELEV

DEPTH TO WATER 4.83' STATIC ELEV

DEPTH FT.	SAMPLE #	PENETRATION RESISTANCE BLOWS/6"	IN. REC.	SOIL DESCRIPTION DENSITY (OR CONSISTANCY), COLOR SOIL TYPE-ACCESSORIES	REMARKS CHEMICAL COMP. GEOLOGIC DATA GROUND WATER
X S1	244	6		DARK BROWN TO BLACK, SANDY SILTY CLAY FILL, WITH PLASTIC FRAGMENTS, DRY. CHANGE TO GRANULAR BLACK FILL @ 3', WET	WATER @ 7.7' BELOW CL 5/18/84, 0832 IN #109
X S2	5566	6			
X S3	2344	1/2			WATER @ 4.83' BELOW CL 5/18/84, 0820 IN #204
X S4	4546	4			
X S5	1101	6			
X S6	1111	6			DROVE CASING TO 10', WATER @ 11' AUGERED CASING OUT. WET
X S7	1111	4			DROVE CASING INTO CLAY TO 15' AUGERED CASING OUT.
X S8	1111	3		DARK GRAY FINE SANDY, SILTY CLAY w/FREQUENT ROOTS, MOIST FROM 12'-15', DRY 15'-18'	HOLE DRY, SUCTION IN RUSH ON PULLING AUGERS-GOOD SEAL
X S9	2234	19		DARK BROWN 3' ORGANIC LAYER @ 18'6"	SET 4" DIAM., 30 SLOT PVC SCREEN @ 20'-25'
X S10	4768	10		19'6" MEDIUM GRAY SILTY FINE SAND, WET 20'6"	
X S11	91118	12		RED BROWN FINE SANDY CLAYEY SILT w/OCCASIONAL FINE SAND WET BANDS	
X S12					

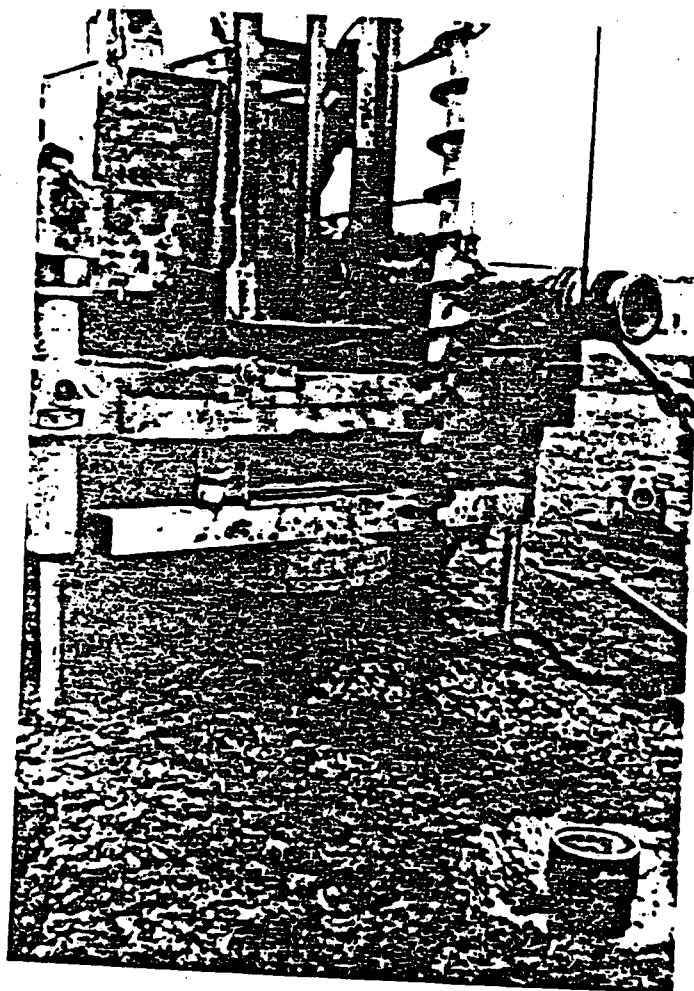
GRAPHIC LOG

#109

1.75'

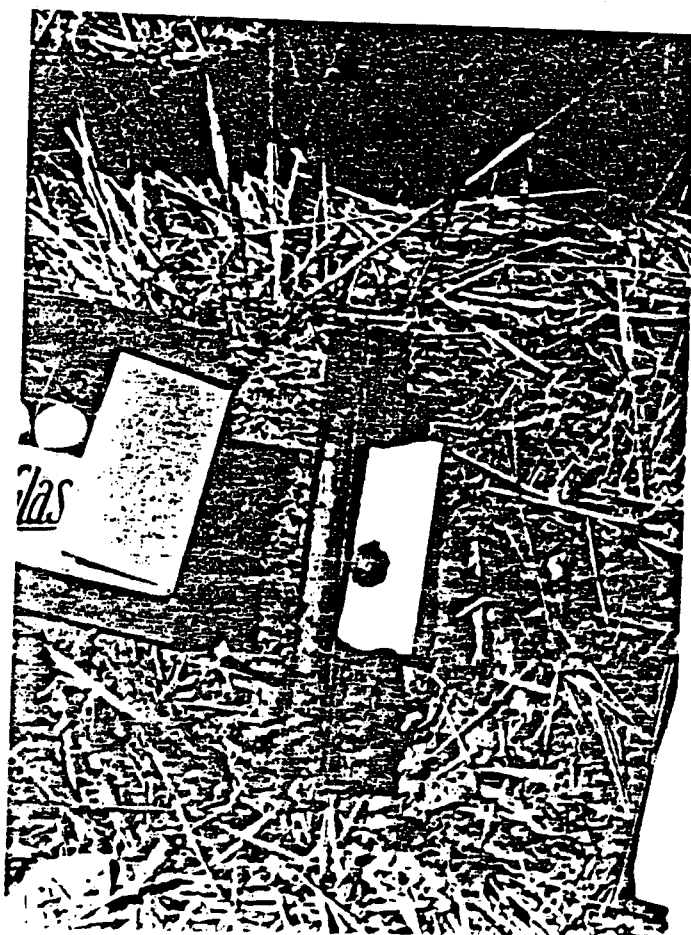
G.C.S.

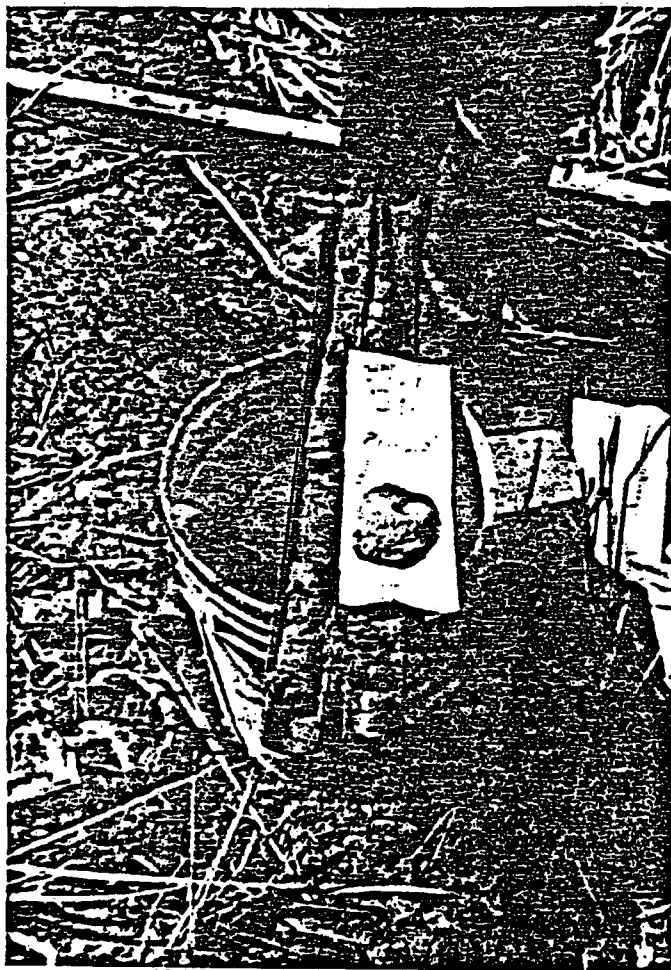
20'



Date/Time: May 18, 1984 12:10
 Photographer: John Bee
 Location: Central Steel Drum
 Camera: 35 mm
 Lens: Automatic
 Remarks: Example of granular
 Fill, on Solid Stem Augers
 0-8', Borehole 203

Date/Time: May 17, 1984; 0945
 Photographer: John Bee
 Location: Central Steel Drum
 Camera: 35 mm
 Lens: Automatic
 Remarks: Example of Dark Gray
 Silty Clay, Cohesive, Smearing
 from 6' to 17' in Borehole 201





Date/Time: May 17, 1984 10:30

Photographer: John Bee

Location: Central Steel Drum

Camera: 35 mm

Lens: Automatic

Remarks: Example of Red Brown
Silty Fine Sand from 20-21'9"

Borehole 201

Date/Time: May 17, 1984 10:45

Photographer: John Bee

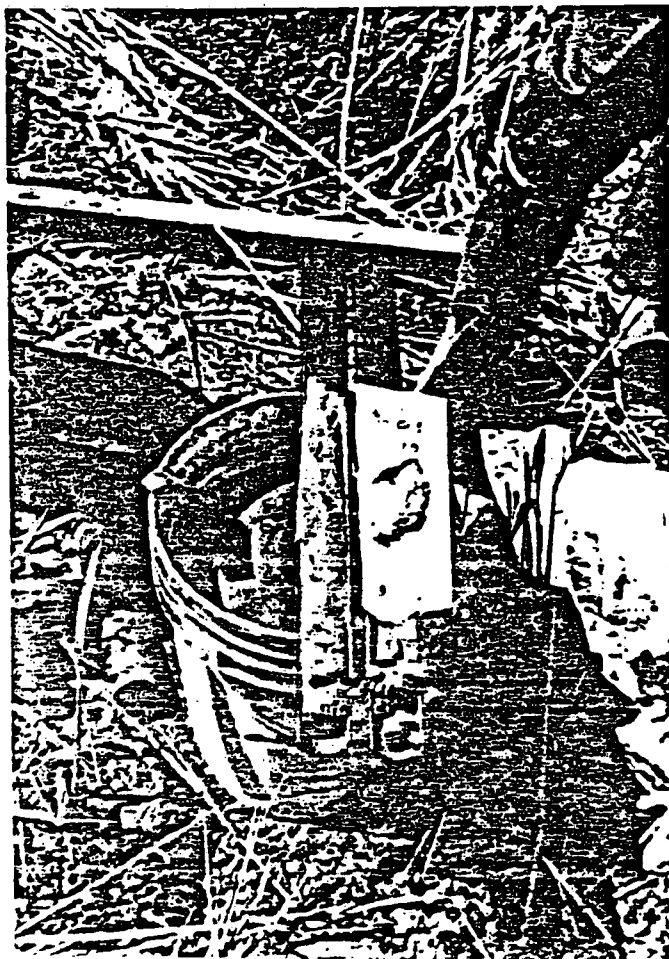
Location: Central Steel Drum

Camera: 35 mm

Lens: Automatic

Remarks: Example of Red Brown,
Fine Sandy Silt, Trace Clay
from 22'-24'

Borehole 201



GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



LEW KLEIN, M.S., Director

Telephone
201-373-8007

RONICS
ACKSON DRIVE
NFORD, NJ 07016

LE SUBMITTED: WED. NOVEMBER 21, 1984

ILLED WATER - TRIP BLANK #84811
TRAL STEEL DRUM - 704 DOREMUS AVENUE, NEWARK, NJ

ALL RESULTS ARE <10. PARTS PER BILLION.

PESTICIDES/PCB'S

A-ENDOSULFAN

4,4'DDD

AROCHLOR 1232

HA-BHC

HEPTACHLOR EPOXIDE

AROCHLOR 1254

A-BHC

ENDOSULEAN SULFATE

AROCHLOR 1016

DDE

DELTA-BHC

AROCHLOR 1242

PTACHLOR

DIELDRIN

ENDRIN ALDEHYDE

A-ENDOSULFAN

4,4'DDT

AROCHLOR 1221

TA-BHC

CHLORDANE

AROCHLOR 1248

RIN

TOXAPHENE

AROCHLOR 1260

RIN

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



ATHEW KLEIN, M.S., Director

Telephone
201-373-8007

ENVIRONICS
46 JACKSON DRIVE
CRANFORD, NJ 07016

SAMPLE SUBMITTED: WED. NOVEMBER 21, 1984

RESULTS ARE IN MG/L.

WELL WATER #204 #84818 @CENTRAL STEEL DRUM
704 DOREMUS AVENUE, NEWARK, NJ

ANTIMONY	0.96
CADMIUM	0.02
LEAD	<0.2
SELENIUM	<0.001
ZINC	0.04
CHROMIUM	<0.02
ARSENIC	0.002
MERCURY	<0.0002
SILVER	<0.02
BERYLLIUM	<0.01
COPPER	0.09
NICKEL	0.23
THALLIUM	0.39
CYANIDE	0.0036
PHENOLS	0.005

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Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



ATHEW KLEIN, M.S., Director

Telephone
201-373-8007

IRONICS
JACKSON DRIVE
FORD, NJ 07016

WELL WATER #204 #84818
@CENTRAL STEEL DRUM-704
DOREMUS AVENUE, NEWARK, NJ

SAMPLE SUBMITTED: WED. NOVEMBER 21, 1984

VOLATILE ORGANIC ANALYSIS BY GC/MS

COMPOUND	RESULT	COMPOUND	RESULT
BROMOMETHANE	<1.0	TRANS-1,3 DICHLOROPROPENE	<1.0
MONOMETHANE	<1.0	TRICHLOROETHYLENE	<1.0
CHLORODIFLUOROMETHANE	<1.0	DIBROMOCHLOROMETHANE	<1.0
NYL CHLORIDE	<1.0	1,1,2 TRICHLOROETHANE	<1.0
OROETHANE	<1.0	CIS-1,3, DICHLOROPROPYLENE	<1.0
ETHYLENE CHLORIDE	<1.0	BENZENE	<1.0
TRICHLOROFLUOROMETHANE	<1.0	2-CHLOROETHYL VINYL ETHER	<1.0
DICHLOROETHYLENE	<1.0	BROMOFORM	<1.0
1 DICHLOROETHANE	<1.0	1,1,2,2 TETRACHLOROETHANE	<1.0
NS-1,2 DICHLOROETHYLENE	<1.0	TETRACHLOROETHYLENE	<1.0
CHLOROFORM	<1.0	TOLUENE	<1.0
2 DICHLOROETHANE	<1.0	CHLOROBENZENE	<1.0
1 TRICHLOROETHANE	<1.0	ETHYLBENZENE	<1.0
ARBON TETRACHLORIDE	<1.0	ACROLEIN	<100.
MODICHLOROMETHANE	<1.0	ACRYLONITRILE	<100.
2 DICHLOROPROPANE	<1.0		

ALL RESULTS ARE IN MICROGRAMS/LITER (PARTS PER BILLION).

= LESS THAN, NONE DETECTED.

ANALYSIS PERFORMED BY PURGE AND TRAP GAS CHROMATOGRAPHY/MASS SPECTROMETRY.

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



HEW KLEIN, M.S., Director

Telephone
201-373-8007

RONICS
JACKSON DRIVE
NORFORD, NJ 07016

FILE SUBMITTED: WED. NOVEMBER 21, 1984

ALL RESULTS ARE <10.0 PARTS PER BILLION

WATER #204 #84818
CENTRAL STEEL DRUM - 704 DOREMUS AVENUE, NEWARK, NEW JERSEY

46 base/neutral extractable organics

Dichlorobenzene	1,3 Dichlorobenzene	1,4 Dichlorobenzene
Chloroethane	Hexachlorobutadiene	Hexachlorobenzene
4 Trichlorobenzene	bis(2-Chloroethoxy)methane	
Phthalene	2 Chloronaphthalene	Isophorone
Benzene	2,4 Dinitrotoluene	2,6 Dinitrotoluene
Bisphenyl phenyl ether	bis(2-Ethylhexyl)phthalate	
n-octyl phthalate	Dimethyl phthalate	diethyl phthalate
n-butyl phthalate	Acenaphthylene	Acenaphthene
n-benzyl phthalate	Fluorene	Fluoranthene
Pyrene	Pyrene	Phenanthrene
Acene	Benzo(a)anthracene	Benzo(b)fluoranthene
Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene
Benzo(a,h)anthracene	Benzo(g,h,i)perylene	4 Chlorophenylphenyl ether
Dichlorobenzidine	Benzidine	bis(2-Chloroethyl) ether
Diphenylhydrazine	Hexachlorocyclopentadiene	
Nitrosodiphenylamine	N-Nitrosodimethylamine	
Nitrosodi-n-propylamine	bis(2-Chloroisopropyl)ether	

11 acid extractable organics

Phenol	2 Nitrophenol	4 Nitrophenol
4 Dinitrophenol	4,6 Dinitro-o-cresol	Pentalchlorophenol
Chloro-m-cresol	2 Chlorophenol	2,4 Dichlorophenol
2,6 Trichlorophenol	2,4 Dimethylphenol	

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Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



Telephone
201-373-8007

NEW KLEIN, M.S., Director

RONICS

JACKSON DRIVE

WYFORD, NJ

07016

SAMPLE SUBMITTED: WED. NOVEMBER 21, 1984

WATER #204

#84818

CENTRAL STEEL DRUM - 704 DOREMUS AVENUE, NEWARK, NJ

ALL RESULTS ARE <10. PARTS PER BILLION.

PESTICIDES/PCB'S

PHALPHOSULFAN

4,4'DDD

AROCHLOR 1232

HA-BHC

HEPTACHLOR EPOXIDE

AROCHLOR 1254

MMA-BHC

ENDOSULFAN SULFATE

AROCHLOR 1016

'DDE

DELTA-BHC

AROCHLOR 1242

PTACHLOR

DIELDRIN

ENDRIN ALDEHYDE

ETA-ENDOSULFAN

4,4'DDT

AROCHLOR 1221

A-BHC

CHLORDANE

AROCHLOR 1248

DRIN

TOXAPHENE

AROCHLOR 1260

DRIN

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399 Stuyvesant Avenue

Irvington, N.J. 07111



HEW KLEIN, M.S., Director

Telephone
201-373-8007

ENVIRONICS
46 JACKSON DRIVE
CRANFORD, NJ 07016

SAMPLE SUBMITTED: WED. NOVEMBER 21, 1984

RESULTS ARE IN MG/L.

WELL WATER #203 #84819 @CENTRAL STEEL
DRUM-704 DOREMUS AVENUE, NEWARK, NJ

ANTIMONY	0.90
CADMIUM	0.02
LEAD	<0.2
SELENIUM	<0.001
ZINC	0.05
CHROMIUM	<0.02
ARSENIC	0.010
MERCURY	<0.0002
SILVER	<0.02
BERYLLIUM	<0.01
COPPER	0.10
NICKEL	0.23
THALLIUM	0.39
CYANIDE	0.0028
PHENOLS	0.009

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Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



Telephone
201-373-8007

ATHEW KLEIN, M.S., Director

RONICS
JACKSON DRIVE
FORD, NJ 07016

WELL WATER #203 #84819
@CENTRAL STEEL DRUM-704
DOREMUS AVENUE, NEWARK, NJ

SAMPLE SUBMITTED: WED. NOVEMBER 21, 1984

VOLATILE ORGANIC ANALYSIS BY GC/MS

<u>POUND</u>	<u>RESULT</u>	<u>COMPOUND</u>	<u>RESULT</u>
CHLOROMETHANE	<1.0	TRANS-1,3 DICHLOROPROPENE	<1.0
BROMOMETHANE	<1.0	TRICHLOROETHYLENE	<1.0
CHLORODIFLUOROMETHANE	<1.0	DIBROMOCHLOROMETHANE	<1.0
VINYL CHLORIDE	<1.0	1,1,2 TRICHLOROETHANE	<1.0
CHLOROETHANE	<1.0	CIS-1,3, DICHLOROPROPYLENE	<1.0
ETHYLENE CHLORIDE	<1.0	BENZENE	<1.0
TRICHLOROFLUOROMETHANE	<1.0	2-CHLOROETHYL VINYL ETHER	<1.0
1,1 DICHLOROETHYLENE	<1.0	BROMOFORM	<1.0
1,1,1 DICHLOROETHANE	<1.0	1,1,2,2 TETRACHLOROETHANE	<1.0
TRANS-1,2 DICHLOROETHYLENE	<1.0	TETRACHLOROETHYLENE	<1.0
CHLOROFORM	<1.0	TOLUENE	<1.0
1,2 DICHLOROETHANE	<1.0	CHLOROBENZENE	<1.0
1,1,1 TRICHLOROETHANE	<1.0	ETHYLBENZENE	<1.0
CARBON TETRACHLORIDE	<1.0	ACROLEIN	<100.
BROMODICHLOROMETHANE	<1.0	ACRYLONITRILE	<100.
1,2 DICHLOROPROPANE	<1.0		

ALL RESULTS ARE IN MICROGRAMS/LITER (PARTS PER BILLION).

< = LESS THAN, NONE DETECTED.

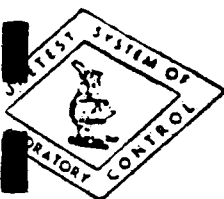
ANALYSIS PERFORMED BY PURGE AND TRAP GAS CHROMATOGRAPHY/MASS SPECTROMETRY.

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



NEW KLEIN, M.S., Director

Telephone
201-373-8007

RONICS
JACKSON DRIVE
FORD, NJ 07016

PLE SUBMITTED: WED. NOVEMBER 21, 1984

ALL RESULTS ARE <10.0 PARTS PER BILLION

L WATER #203 #84819

TRAL STEEL DRUM - 704 DOREMUS AVENUE, NEWARK, NEW JERSEY

46 base/neutral extractable organics

chlorobenzene	1,3 Dichlorobenzene	1,4Dichlorobenzene
chloroethane	Hexachlorobutadiene	Hexachlorobenzene
4 Trichlorobenzene	bis(2-Chloroethoxy)methane	
halene	2 Chloronaphthalene	Isophorone
benzene	2,4 Dinitrotoluene	2,6 Dinitrotoluene
omophenyl phenyl ether	bis(2-Ethylhexxyl)phthalate	
octyl phthalate	Dimethyl phthalate	diethyl phthalate
butyl phthalate	Acenaphthylene	Acenaphthene
1 benzyl phthalate	Fluorene	Fluoranthene
sene	Pyrene	Phenanthrene
acene	Benzo(a)anthracene	Benzo(b)fluoranthene
(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene
enzo(a,h)anthracene	Benzo(g,h,i)perylene	4 Chlorophenylphenyl ether
Dichlorobenzidine	Benzidine	bis(2-Chloroethyl) ether
Diphenylhydrazine	Hexachlorocyclopentadiene	
rosodiphenylamine	N-Nitrosodimethylamine	
rosodi-n-propylamine	bis(2-Chloroisopropyl)ether	

11 acid extractable organics

ol .	2 Nitrophenol	4 Nitrophenol
Dinitrophenol	4,6 Dinitro-o-cresol	Pentalchlorophenol
orop-m-cresol	2 Chlorophenol	2,4 Dichlorophenol
6 Trichlorophenol	2,4 Dimethylphenol	

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



Telephone
201-373-8007

NEW KLEIN, M.S., Director

RONICS
JACKSON DRIVE
FORD, NJ 07016

LE SUBMITTED: WED. NOVEMBER 21, 1984

WATER #203 #84819

TRAIL STEEL DRUM - 704 DOREMUS AVENUE, NEWARK, NJ

ALL RESULTS ARE <10. PARTS PER BILLION.

PESTICIDES/PCB'S

MA-INDOSULFAN	4,4'DDD	AROCHLOR 1232
HA-BHC	HEPTACHLOR EPOXIDE	AROCHLOR 1254
MA-BHC	ENDOSULEAN SULFATE	AROCHLOR 1016
DDE	DELTA-BHC	AROCHLOR 1242
PTACHLOR	DIELDRIN	[NDRIN ALDEHYDE
-ENDOSULFAN	4,4'DDT	AROCHLOR 1221
TA-BHC	CHLORDANE	AROCHLOR 1248
RIN	TOXAPHENE	AROCHLOR 1260

RIN

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



THEW KLEIN, M.S., Director

Telephone
201-373-8007

ENVIRONICS
46 JACKSON DRIVE
CRANFORD, NJ 07016

SAMPLE SUBMITTED: WED. NOVEMBER 21, 1984

FIELD BLANK #84820 @CENTRAL STEEL
DRUM - 704 DOREMUS AVENUE, NJ

RESULTS ARE IN MG/L.

ANTIMONY	<0.1
CADMIUM	<0.01
LEAD	<0.2
SELENIUM	<0.001
ZINC	<0.01
CHROMIUM	<0.02
ARSENIC	<0.001
MERCURY	<0.0002
SILVER	<0.02
BERYLLIUM	<0.01
COPPER	<0.05
NICKEL	<0.02
THALLIUM	<0.15
CYANIDE	<0.002
PHENOLS	<0.002

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



Telephone
201-373-8007

ATHEW KLEIN, M.S., Director

RONICS
JACKSON DRIVE
ANFORD, NJ 07016

FIELD BLANK #84820
@CENTRAL STEEL DRUM-704
DOREMUS AVENUE, NEWARK, NJ

MPLE SUBMITTED: WED. NOVEMBER 21, 1984

VOLATILE ORGANIC ANALYSIS BY GC/MS

POUND	RESULT	COMPOUND	RESULT
CHLOROMETHANE	<1.0	TRANS-1,3 DICHLOROPROPENE	<1.0
BROMOMETHANE	<1.0	TRICHLOROETHYLENE	<1.0
CHLORODIFLUOROMETHANE	<1.0	DIBROMOCHLOROMETHANE	<1.0
VINYL CHLORIDE	<1.0	1,1,2 TRICHLOROETHANE	<1.0
CHLOROETHANE	<1.0	CIS-1,3, DICHLOROPROPYLENE	<1.0
ETHYLENE CHLORIDE	<1.0	BENZENE	<1.0
TRICHLOROFLUOROMETHANE	<1.0	2-CHLOROETHYL VINYL ETHER	<1.0
1,1 DICHLOROETHYLENE	<1.0	BROMOFORM	<1.0
1,1 DICHLOROETHANE	<1.0	1,1,2,2 TETRACHLOROETHANE	<1.0
TRANS-1,2 DICHLOROETHYLENE	<1.0	TETRACHLOROETHYLENE	<1.0
CHLOROFORM	<1.0	TOLUENE	<1.0
1,2 DICHLOROETHANE	<1.0	CHLOROBENZENE	<1.0
1,1,1 TRICHLOROETHANE	<1.0	ETHYLBENZENE	<1.0
CARBON TETRACHLORIDE	<1.0	ACROLEIN	<100.
BROMODICHLOROMETHANE	<1.0	ACRYLONITRILE	<100.
1,2 DICHLOROPROPANE	<1.0		

ALL RESULTS ARE IN MICROGRAMS/LITER (PARTS PER BILLION).

< = LESS THAN, NONE DETECTED.

ANALYSIS PERFORMED BY PURGE AND TRAP GAS CHROMATOGRAPHY/MASS SPECTROMETRY.

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111



ATHEW KLEIN, M.S., Director

Telephone
201-373-8007

VIRONICS

6 JACKSON DRIVE

RANFORD, NJ 07016

AMPLE SUBMITTED: WED. NOVEMBER 21, 1984

ALL RESULTS ARE <10.0 PARTS PER BILLION

ELD BLANK #84820

ENTRAL STEEL DRUM - 704 DOREMUS AVENUE, NEWARK, NEW JERSEY

46 base/neutral extractable organics

Dichlorobenzene	1,3 Dichlorobenzene	1,4 Dichlorobenzene
Chloroethane	Hexachlorobutadiene	Hexachlorobenzene
4 Trichlorobenzene	bis(2-Chloroethoxy)methane	
thalene	2 Chloronaphthalene	Isophorone
benzene	2,4 Dinitrotoluene	2,6 Dinitrotoluene
omophenyl phenyl ether	bis(2-Ethylhexxyl)phthalate	
-octyl phthalate	Dimethyl phthalate	diethyl phthalate
butyl phthalate	Acenaphthylene	Acenaphthene
benzyl phthalate	Fluorene	Fluoranthene
sene	Pyrene	Phenanthrene
acene	Benzo(a)anthracene	Benzo(b)fluoranthene
(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene
nzo(a,h)anthracene	Benzo(g,h,i)perylene	4 Chlorophenylphenyl ether
Dichlorobenzidine	Benzidine	bis(2-Chloroethyl) ether
aphenyhydrazine	Hexachlorocyclopentadiene	
rosodiphenylamine	N-Nitrosodimethylamine	
rosodi-n-propylamine	bis(2-Chloroisopropyl)ether	

11 acid extractable organics

Dinitrophenol	2 Nitrophenol	4 Nitrophenol
loro-m-cresol	4,6 Dinitro-o-cresol	Pentalchlorophenol
Trichlorophenol	2 Chlorophenol	2,4 Dichlorophenol
	2,4 Dimethylphenol	

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399 Stuyvesant Avenue

Irvington, N.J. 07111



Telephone
201-373-8007

NEW KLEIN, M.S., Director

RONICS

JACKSON DRIVE

NEWARK, NJ

07016

SAMPLE SUBMITTED: WED. NOVEMBER 21, 1984

TEST BLANK #84820
CENTRAL STEEL DRUM - 704 DOREMUS AVENUE, NEWARK, NJ

ALL RESULTS ARE <10, PARTS PER BILLION.

PESTICIDES/PCB'S

ALPHA-HEPTACHLOR SULFAN

ALPHA-BHC

GAMMA-BHC

4,4'DDE

HEPTACHLOR

BETA-ENDOSULFAN

BETA-BHC

ALDRIN

ENDRIN

4,4'DDD

HEPTACHLOR EPOXIDE

ENDOSULFAN SULFATE

DELTA-BHC

DIELDRIN

4,4'DDT

CHLORDANE

TOXAPHENE

AROCHLOR 1232

AROCHLOR 1254

AROCHLOR 1016

AROCHLOR 1242

ENDRIN ALDEHYDE

AROCHLOR 1221

AROCHLOR 1248

AROCHLOR 1260

ATTACHMENT 4

HISTORICAL SAMPLING RESULTS



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
EXECUTIVE SUMMARY**

Central Steel Drum
Site Name

NJD011482577
EPA Site ID Number

704 Doremus Avenue
Newark, New Jersey
Address

02-8511-15
TDD Number

SITE DESCRIPTION

Central Steel Drum, which currently occupies the site, reconditions open steel drums received from various industries ranging from food to paint manufacturing. The initial phase of reconditioning involves incineration; this is followed by sand blasting and repainting. Central Steel Drum has been in operation since 1951. Prior to this the site was occupied by an ink manufacturer which is now part of what is known as Inmont Chemical Corporation. The site occupies eight acres.

The NJDEP has closely followed site operations since 1980. Past methods of improper ash disposal include open piles and mixing of ash with on site fill. Ash is currently stored in roll off containers and is manifested under Resource Conservation and Recovery Act (RCRA) law. In addition, state inspection reports record residue from drums received being spilled on the ground.

The site is located in the industrial area on Newark Bay east of the NJ Turnpike and north of Newark International Airport. The site is situated on filled marsh land. The residential area begins 1.5 miles from the site (Ironbound section of Newark). On site drainage ditches feed into Newark Bay and groundwater recharges the industrially used Brunswick aquifer west-northwest of the site.

On February 6, 1986, a site inspection was conducted by NUS Corporation Region II FIT. Four soil, three groundwater, and one surface water sample were collected and analyzed for hazardous substance list (HSL) chemicals.

HAZARD RANKING SCORE: $S_v = 4.70$ ($S_{gw} = 3.23$ $S_{sw} = 7.44$ $S_a = 0$)

$S_{FE} = 0$

$S_{DC} = 0$

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMB
NJ 001148257

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) 02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Central Steel Drum 704 Doremus Avenue
03 CITY 04 STATE 05 ZIP CODE 06 COUNTY 07 COUNTY CODE 08 CONG DIS
Newark NJ 07105 Essex 013 10
09 COORDINATES 10 TYPE OF OWNERSHIP (Check one)
LATITUDE LONGITUDE ☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE
☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER
☐ G. UNKNOWN
4 00 4 2' 3 0" N 7 40 0 7' 3 0" W

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 02 SITE STATUS 03 YEARS OF OPERATION
2 / 5 / 96 ☒ ACTIVE 1951 / Current UNKNOWN
MONTH DAY YEAR ☐ INACTIVE BEGINNING YEAR ENDING YEAR
AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☒ B. EPA CONTRACTOR NUS Corporation ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR
☐ E. STATE ☐ F. STATE CONTRACTOR (Name of firm) (Name of firm)
☐ G. OTHER (Specify)

05 CHIEF INSPECTOR 06 TITLE 07 ORGANIZATION 08 TELEPHONE NO.
Daniel Caramagno Chemical Engineer NUS Corporation (201) 225-6160
09 OTHER INSPECTORS 10 TITLE 11 ORGANIZATION 12 TELEPHONE NO.
Rick Adkisson Environmental Scientist NUS Corporation (201) 225-6160
Richard Pagano Geologist NUS Corporation (201) 225-6160
Luke Darragh Environmental Scientist NUS Corporation (201) 225-6160
Don Hessemer Environmental Scientist NUS Corporation (201) 225-6160

13 SITE REPRESENTATIVES INTERVIEWED 14 TITLE 15 ADDRESS 16 TELEPHONE NO.
Bruce Doremus Environmental Consultant Envirionics (201) 272-3770
Alan Fischer President Central Steel Drum
704 Doremus Ave., Newark, NJ (201) 344-8500

17 ACCESS GAINED BY 18 TIME OF INSPECTION 19 WEATHER CONDITIONS
(Check one) 0930 Cloudy, 35°F, slight breeze from the south
☒ PERMISSION
☐ WARRANT

IV. INFORMATION AVAILABLE FROM

01 CONTACT 02 OF (Agency/Organization) 03 TELEPHONE NO.
Diana Messina U.S. EPA (201) 321-6685

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM 05 AGENCY 06 ORGANIZATION 07 TELEPHONE NO. 08 DATE

PART 2 - WASTE INFORMATION

NJ

D011482577

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
☒ B. POWDER, FINES
☒ C. SLUDGE
☒ D. OTHER

Ash
(Specify)

- ☒ E. SLURRY
☐ F. LIQUID
☐ G. GAS

(Measures of waste quantities must be independent)

TONS Unknown
 CUBIC YARDS Unknown
 NO. OF DRUMS Unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
☐ B. CORROSIVE
☐ C. RADIOACTIVE
☒ D. PERSISTENT
☐ E. SOLUBLE
☐ F. INFECTIOUS
☐ G. FLAMMABLE
☐ H. IGNITABLE
☐ I. HIGHLY VOLATILE
☐ J. EXPLOSIVE
☐ K. REACTIVE
☐ L. INCOMPATIBLE
☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		Ash from drum incineration operations is currently stored in roll off containers and is manifested under RCRA law. Prior to this, sludge was stored in pile or spread as fill on site. Other substances noted are a result of drum residue being spilled on the ground. Another potential source of contamination is on site painting operations.
OLW	OILY WASTE	Unknown		
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Lead	7439-92-1	Unknown	32,100	mg/kg
MES	Zinc	7440-66-6	Unknown	1010	mg/kg
OCC	1,1,2,2 Tetrachloroethane	127-18-4	Unknown	5.9	ug/kg
OCC	Ethylbenzene	100-41-4	Unknown	6.1	ug/kg
OCC	Xylenes	1330-20-7	Unknown	32	ug/kg
SOL	Toluene	108-88-3	Unknown	46	ug/kg
SOL	2-Hexanone	591-78-6	Unknown	5.3	ug/kg
PSD	Chlordane	57-74-9	Unknown	150000	ug/kg
SOL	Tetrachloroethene	127-18-4	Unknown	3900	ug/kg
PSD	4,4-DDE	72-55-9	Unknown	1300	ug/kg
SOL	Methylene Chloride	75-09-2	Unknown	115	ug/kg
SOL	2-Butanone	78-93-3	Unknown	3872	ug/kg
OCC	Isophorone	78-59-1	Unknown	340	ug/kg
OCC	4-Methyl-2-Pentanone	108-10-1	Unknown	14	ug/kg
OCC	Styrene	100-42-5	Unknown	12	ug/kg
SOL	Phenol	108-95-2	Unknown	<8.7	ug/kg
OCC	4-Methylphenol	106-44-5	Unknown	<20	ug/kg
OCC	Benzo (b) Fluoranthene	205-99-2	Unknown	<2000	ug/kg
SOL	1,2,4 Trichlorobenzene	120-82-1	Unknown	<220	ug/kg
OCC	Napthalene	91-20-3	Unknown	<310	ug/kg
OCC	2-Methylnapthalene	91-57-6	Unknown	<120	ug/kg
OCC	Phenanthrene	85-01-8	Unknown	<200	ug/kg
OCC	Fluoranthene	206-44-0	Unknown	<310	ug/kg

SEE ATTACHMENT A

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (See specific references. e.g., state files, sample analysis, reports)

Malcolm Pirnie Preliminary Assessment of 3/5/85
 Site Inspection 2/5/86 - NUS FIT Region II
 U.S. EPA Contract Laboratory Program Sample Management Office. Analytical results of samples collected 2/5/86 by NUS Corporation FIT II

HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	Pyrene	129-00-0	Unknown	<300	ug/kg
OCC	Chrysene	218-01-9	Unknown	<190	ug/kg
OCC	Benzo (b) Fluoranthene	205-99-2	Unknown	<550	ug/kg
OCC	Benzo (k) Fluoranthene	207-08-9	Unknown	<270	ug/kg
OCC	Benzo (a) Pyrene	50-32-8	Unknown	<310	ug/kg
SOL	1,1-Dichloroethene	75-35-4	Unknown	<2.4	ug/kg
SOL	1,1,1-Trichloroethane	71-55-2	Unknown	<3.6	ug/kg
OCC	Bromoform	75-25-2	Unknown	<2.4	ug/kg

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D011482577

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 OBSERVED (DATE: _____) _ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

NJDEP inspection found drum residue spill stains, improper ash disposal and poor housekeeping. Site inspection of 2/5/86 found spilled drums and stained soil. Groundwater use is industrial only. Site groundwater samples obtained on 2/5/86 contained numerous contaminants.

01 ☒ B. SURFACE WATER CONTAMINATION 02 OBSERVED (DATE: _____) _ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

A drainage ditch leading to Newark Bay was found to contain an oily surface sheen. According to NJDEP files the banks contained rusted drums and sludge deposits. Surface water is not used for drinking, therefore population affected is 0. However, there are boating marinas in Jersey City for recreational vessels. Surface water sample obtained on 2/5/86 contained various contaminants.

01 ☒ C. CONTAMINATION OF AIR 02 ☒ OBSERVED (DATE: 2/8/82) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

In 1981 NJDEP inspection reported HNU readings in excess of 2000 ppm. Smoke from the incinerator was black. Various violations have been cited by NJDEP. However, no air readings above background were observed on 2/5/86. Residential population is beyond one mile from the site.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

No potential exists.

01 ☒ E. DIRECT CONTACT 02 ☒ OBSERVED (DATE: 2/5/86) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

Though site is three quarters fenced, back property is open to marsh and gate is open and unattended in business hours. No residences are within one mile, and only workers are possibly affected.

01 ☒ F. CONTAMINATION OF SOIL 02 ☒ OBSERVED (DATE: 2/5/86) _ POTENTIAL _ ALLEGED
03 AREA POTENTIALLY AFFECTED: 3 (ACRES) 04 NARRATIVE DESCRIPTION

NJDEP inspections found various stains on the ground and drums were found leaking their contents on the ground. Site inspection of 2/5/86 confirmed this.

01 ☐ G. DRINKING WATER CONTAMINATION 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

No potential exists as the source of drinking water for Newark is several miles distant.

01 ☒ H. WORKER EXPOSURE/INJURY 02 OBSERVED (DATE: _____) ☒ POTENTIAL _ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 110 04 NARRATIVE DESCRIPTION

Potential for exposure exists due to spills and contaminated soil.

01 ☐ I. POPULATION EXPOSURE/INJURY 02 OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

No potential exists because the area within a mile radius of the site is industrial.

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☒ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

A low potential exists as area is industrial in nature. However contamination of Newark Bay life may occur as a result of drainage off site.

01 ☒ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (Include name(s) of species)

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

A low potential exists as area is industrial in nature, though contamination of aquatic life may occur through site drainage.

01 ☒ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

A low potential exists as surface drainage may contaminate life in Newark Bay.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____

02 ☒ OBSERVED (DATE: 3/29/90) ☐ POTENTIAL ☐ ALLEGED

04 NARRATIVE DESCRIPTION

Incinerator ash was formerly stored on an open concrete slab. Storage is now in roll off containers at slab area.

01 ☒ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

Drainage ditch passes other property in Newark Bay area.

01 ☒ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTps
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED

Potential exists if heavy rains cause overflow and runoff.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☒ OBSERVED (DATE: 3/29/90) ☐ POTENTIAL ☐ ALLEGED

NJDEP noted Central Steel Drum as operating a Treatment/Storage/Disposal (TSD) facility without proper authorization. Since that time Central Steel Drum has improved in their compliance to RCRA regulations. Sand pile noted on Site Reconnaissance 2/30/86 by NUS FIT.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: 110 Central Steel Drum Employees Only

IV. COMMENTS

Due to industrial setting the only direct exposure is to daily workers. Water use in area is either industrial or non-existent. Since the NJDEP investigations Central Steel Drum has made an effort to improve waste manifesting and incineration.

V. SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)

Malcolm Pirnie Preliminary Assessment of 3/5/95
Site Inspection 2/5/96 - NUS FIT Region II

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D011482577

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPDES				
<input type="checkbox"/> B. UIC				
<input checked="" type="checkbox"/> C. AIR State Permit	0067438	08/11/82		Periodic three month renewal
<input checked="" type="checkbox"/> D. RCRA	NJD011482577	10/09/80		Generator ID Number
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE (Specify)				
<input type="checkbox"/> H. LOCAL (Specify)				
<input type="checkbox"/> I. OTHER (Specify)				
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 Storage/Disposal (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input checked="" type="checkbox"/> A. INCINERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input checked="" type="checkbox"/> B. PILES		UNKNOWN	<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	06 AREA OF SITE
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	3
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER	(Acres)
<input checked="" type="checkbox"/> I. OTHER Roll off containers (Specify) Onsite fill	20	CU. YDS. UNKNOWN	(Specify)	

07 COMMENTS

Since the beginning of NJDEP inspections in 1980, Central Steel Drum has made an effort to conform to regulations concerning waste handling and incineration. Also, immediate area of site is heavily contaminated from past practices. The site inspection was conducted to determine the extent of contaminant release.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIXING, LINERS, BARRIERS, ETC.

Drums received are "empty" for reprocessing. However on site inspection found several drum spills staining the ground. Waste is stored in two roll off containers and is manifested for disposal. Containers are on concrete slabs but slab is covered with mud and spilled material and is barely discernable. Ash was previously stored in piles and mixed with on site fill.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

Site is fenced on three sides and is open to an area containing thick, tall grass. Gate is open during working hours and not guarded. As a result, entrance is easily obtained.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Malcolm Pirnie Preliminary Assessment of 2/5/85
Site Inspection 2/5/86 - NUS FIT Region II

PART 5 - DEMOGRAPHIC, AND ENVIRONMENTAL DATA

NJ 0011482577

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check as applicable)

02 STATUS

03 DISTANCE TO SITE

COMMUNITY
NON-COMMUNITYSURFACE
A. ☒
C. ☐WELL
B. ☐
D. ☐ENDANGERED
A. ☐
D. ☒AFFECTED
B. ☐
E. ☐MONITORED
C. ☐
F. ☐A. >3 (mi)
B. N/A (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING ☒ C. COMMERCIAL, INDUSTRIAL, IRRIGATION ☐ D. NOT USED, UNUSEABLE(Other sources
available)
COMMERCIAL,
INDUSTRIAL,
IRRIGATION
(No other water
sources available)

(Limited other sources available)

02 POPULATION SERVED BY GROUND WATER: 0 03 DISTANCE TO NEAREST DRINKING WATER WELL: N/A (mi)

04 DEPTH TO GROUNDWATER 05 DIRECTION OF GROUNDWATER FLOW 06 DEPTH TO AQUIFER OF CONCERN 07 POTENTIAL YIELD OF AQUIFER 08 SOLE SOURCE AQUIFER

3 (ft)WNW20 (ft)2.0 x 10⁷ (gpd) ☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

Wells are commercially owned and are west and northwest of site. Wells vary from 200-900 feet in depth and average about 350 ft. No drinking wells are present. Nearest down gradient well is on Delancey Street, Newark and is owned by Rutherford and Delancey Holding Corporation. The nearest well is one mile from the site. All the wells to the west of the site tap the Brunswick Aquifer which is charged by Newark Bay. Groundwater flow is away from Newark Bay because of heavy pumping conditions in Newark.

10 RECHARGE AREA

11. DISCHARGE AREA

☒ YES
☐ NO

COMMENTS

Newark Bay recharges
aquifer of concern.☒ YES
☐ NO

COMMENTS

Water recharges Brunswick
Formation to the west.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION
DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY
IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:

AFFECTED

DISTANCE TO SITE

Passaic River1.0 (mi)Newark Bay0.75 (mi)Drainage Ditch (Ditch is deep and filled with water
year round)☒On site (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN (Population figures are based on residential only) 02 DISTANCE TO NEAREST POPULATION

ONE (1) MILE OF SITE

TWO (2) MILES OF SITE

THREE (3) MILES OF SITE

A. 0
NO. OF PERSONSB. 53900
NO. OF PERSONSC. 186900
NO. OF PERSONS1.5 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

04 DISTANCE TO NEAREST OFF-SITE BUILDING

19900<0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site. e.g., rural, village, densely populated urban area)

The immediate vicinity of the site contains industrial property. To the south is Newark International Airport (1/2 mile distance). To the west, at a distance of about 1.5 miles, is the densely populated Ironbound section of Newark. Newark Bay is east of the site. North of the site are several industrial complexes which contain marine facilities heavily served by commercial shipping.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ 0011482577

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

X A. 10^{-6} - 10^{-8} cm/sec B. 10^{-4} - 10^{-6} cm/sec C. 10^{-4} - 10^{-3} cm/sec D. GREATER THAN 10^{-3} cm/sec
Soil is fill over marsh land with a clay lense over the aquifer of concern.

02 PERMEABILITY OF BEDROCK (Check one)

A. IMPERMEABLE (Less than 10^{-6} cm/sec) X B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK

40 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

Unknown (ft)

05 SOIL pH

6.9 - 7.6

06 NET PRECIPITATION

14 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.75 (in)

08 SLOPE
SITE SLOPE

0-1 %

DIRECTION OF SITE SLOPE

East

TERRAIN AVERAGE SLOPE

0-1 %

09 FLOOD POTENTIAL

10

SITE IS IN 100 YEAR FLOODPLAIN SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

A. 2.5 (mi)

OTHER

B. N/A (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>2 (mi)

ENDANGERED SPECIES: N/A

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS: NATIONAL/STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS
PRIME AG LAND

AG LAND

A. Adjacent (mi)

B. 1.5 (mi)

C. >3 (mi)

D. >3 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is located about one mile west of Newark Bay and North of Newark International Airport. The area is flat with less than 1% slope. The surrounding area is former wetland that has been filled in. Drainage "Streams" or ditches are located on site and lead into Newark Bay.

VII SOURCES OF INFORMATION (Cite specific references e.g., state files, sample analysis, reports)

William D. Nichols, Groundwater Resources of Essex County, New Jersey: Special Report 28, United States Geological Survey
Telecon with Sy Goodman - USDA, 4/3/85
Preliminary Report on the Geology and Groundwater Supply of Newark, New Jersey Area: Special Report #1 New Jersey Department
of Conservation and Economic Development
Paul B. Dahlgren, Hydrogeologic Assessment for Central Steel Drum, Envirionics Inc.

PART 6 - SAMPLE AND FIELD INFORMATION

NJ 0011482577

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	3	All Organics Sent To:	
SURFACE WATER	1	Environmental Testing and Certification Labs	
WASTE		284 Raritan Center Parkway	
AIR		Edison, NJ 08818	
RUNOFF			
SPILL		All Inorganics Sent To:	
SOIL	4	JTC Environmental Consultants Inc.	
VEGETATION		Four Research Place, Suite L-10	
OTHER		Rockville, Maryland 20850	

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Air	OVA, HNU used for checking air contamination for Health and Safety reasons. No readings above background except upon well opening.

IV. PHOTOGRAPHS AND MAPS

01 TYPE	<input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF	NUS Corporation - FIT II (Name of organization or individual)
03 MAPS	04 LOCATION OF MAPS		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	NUS Corporation - FIT II Region Office		

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Field Notebook #1864 filed under TOD #02-8511-15.

VI. SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)

Site Inspection, 2/5/96 - NUS FIT Region II

**SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION**

01 STATE 02 SITE NUMBER
NJ D011482577

II. CURRENT OWNER(S)			PARENT COMPANY (If applicable)		
01 NAME	02 D + B NUMBER	08 NAME	09 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Newark	NJ	07105			

01 NAME	02 D + B NUMBER	08	09 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D + B NUMBER	08 NAME	09 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D + B NUMBER	08 NAME	09 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)			IV. REALTY OWNER(S) (If applicable; list most recent first)		
01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		
05 CITY	06 STATE	05 CITY	06 STATE	07 ZIP CODE	
Inter Chemical (Immont)					
1255 Broad Street					
Clifton	NJ			07015	

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		
05 CITY	06 STATE	05 CITY	06 STATE	07 ZIP CODE	

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE		
05 CITY	06 STATE	05 CITY	06 STATE	07 ZIP CODE	

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site Inspection 2/5/86 - MUS FIT Region II

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ D011482577

I. CURRENT OPERATOR(S)			OPERATOR'S PARENT COMPANY (If applicable)		
01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER		
Same as current owner)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)					
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

II. PREVIOUS OPERATOR(S) (List most recent first: Provide only if different from owner)			PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)		
01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER		
Same as previous owner)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)					
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site Inspection 2/5/86 - NUS FIT Region II.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ 0011482577

II ON-SITE GENERATOR

01 NAME	02 D + 3 NUMBER
Central Steel Drum	NJ 0011482577
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
704 Coremus Avenue	
05 CITY	06 STATE
Newark	NJ
	07 ZIP CODE
	07105

III OFF-SITE GENERATOR(S)

01 NAME	02 D + 3 NUMBER	01 NAME	02 D + 3 NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY	06 STATE	05 CITY	06 STATE
	07 ZIP CODE		07 ZIP CODE

01 NAME	02 D + 3 NUMBER	01 NAME	02 D + 3 NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY	06 STATE	05 CITY	06 STATE
	07 ZIP CODE		07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D + 3 NUMBER	01 NAME	02 D + 3 NUMBER
National Corporate Disposal			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
58 East Main Street			
05 CITY	06 STATE	05 CITY	06 STATE
Bohota	NJ		
	07 ZIP CODE		07 ZIP CODE

01 NAME	02 D + 3 NUMBER	01 NAME	02 D + 3 NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY	06 STATE	05 CITY	06 STATE
	07 ZIP CODE		07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site Inspection 2/5/86 - NUS FIT Region II

2 -
 SITE INSPECTION REPORT
 PART 10 - PAST RESPONSE ACTIVITIES

01 STATE 02 SITE NUMBER
 NJ 0011482577

II. PAST RESPONSE ACTIVITIES

01 A. WATER SUPPLY CLOSED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 B. TEMPORARY WATER SUPPLY PROVIDED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 C. PERMANENT WATER SUPPLY PROVIDED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 D. SPILLED MATERIAL REMOVED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 E. CONTAMINATED SOIL REMOVED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 F. WASTE REPACKAGED	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 G. WASTE DISPOSED ELSEWHERE	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 H. ON SITE BURIAL	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 I. IN SITU CHEMICAL TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 J. IN SITU BIOLOGICAL TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 K. IN SITU PHYSICAL TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 L. ENCAPSULATION	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 M. EMERGENCY WASTE TREATMENT	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 N. CUTOFF WALLS	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 O. EMERGENCY DIXING/SURFACE WATER DIVERSION	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 P. CUTOFF TRENCHES/SUMP	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		
01 Q. SUBSURFACE CUTOFF WALL	02 DATE: _____	03 AGENCY: _____
04 DESCRIPTION		
Not applicable.		

SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

01 STATE 02 SITE NUMBER
NJ D011482577

II. PAST RESPONSE ACTIVITIES

01 R. BARRIER WALLS CONSTRUCTED

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 S. CAPPING/COVERING

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 T. BULK TANKAGE REPAIRED

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 U. GROUT CURTAIN CONSTRUCTED

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 V. BOTTOM SEALED

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 W. GAS CONTROL

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 X. FIRE CONTROL

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 Y. LEACHATE TREATMENT

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 Z. AREA EVACUATED

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 1. ACCESS TO SITE RESTRICTED

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 2. POPULATION RELOCATED

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

01 3. OTHER REMEDIAL ACTIVITIES

04 DESCRIPTION

02 DATE: _____

03 AGENCY: _____

Not applicable.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site Inspection 2/5/86 - NUS FIT Region II

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ 0011482577

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION

☒ YES

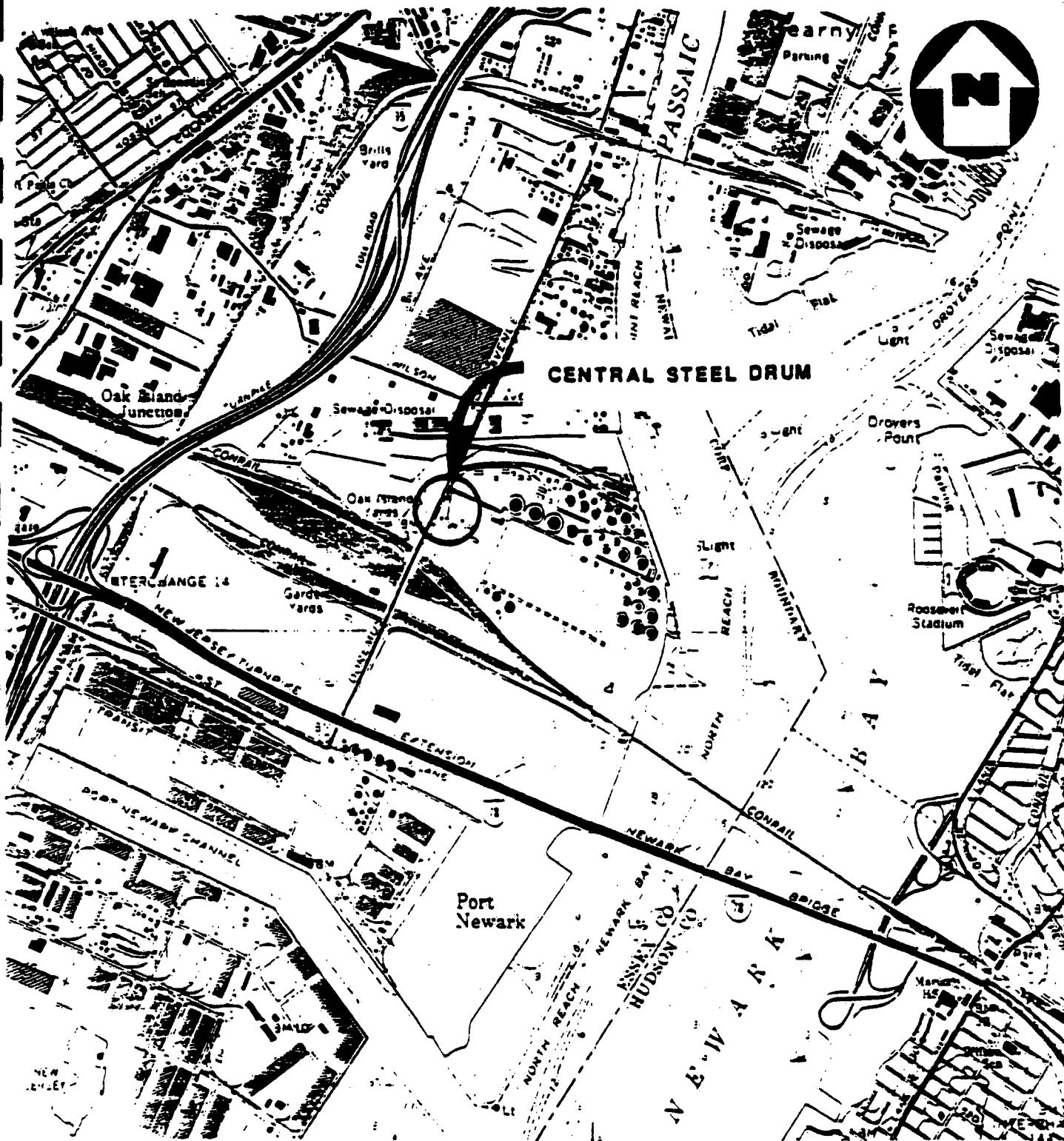
☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

- (1) 3/23/90 - Notice of Prosecution (NOP) to Central Steel Drum for improper ash disposal. CSD cited for illegally operating Treatment Storage Disposal facility (RCRA).
- (2) Cited violations concerning incinerator emissions on February 8, 1982. Violations included capacity, past operation without a permit, and open burning.
- (3) NJDEP-DWR required groundwater study in 1983.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, report)

Telecon. Kevin Krouse of NJDEP - (201) 669-3960
Malcolm Pirnie, Preliminary Assessment of 3/5/85



(QUAD) ELIZABETH, N.J.

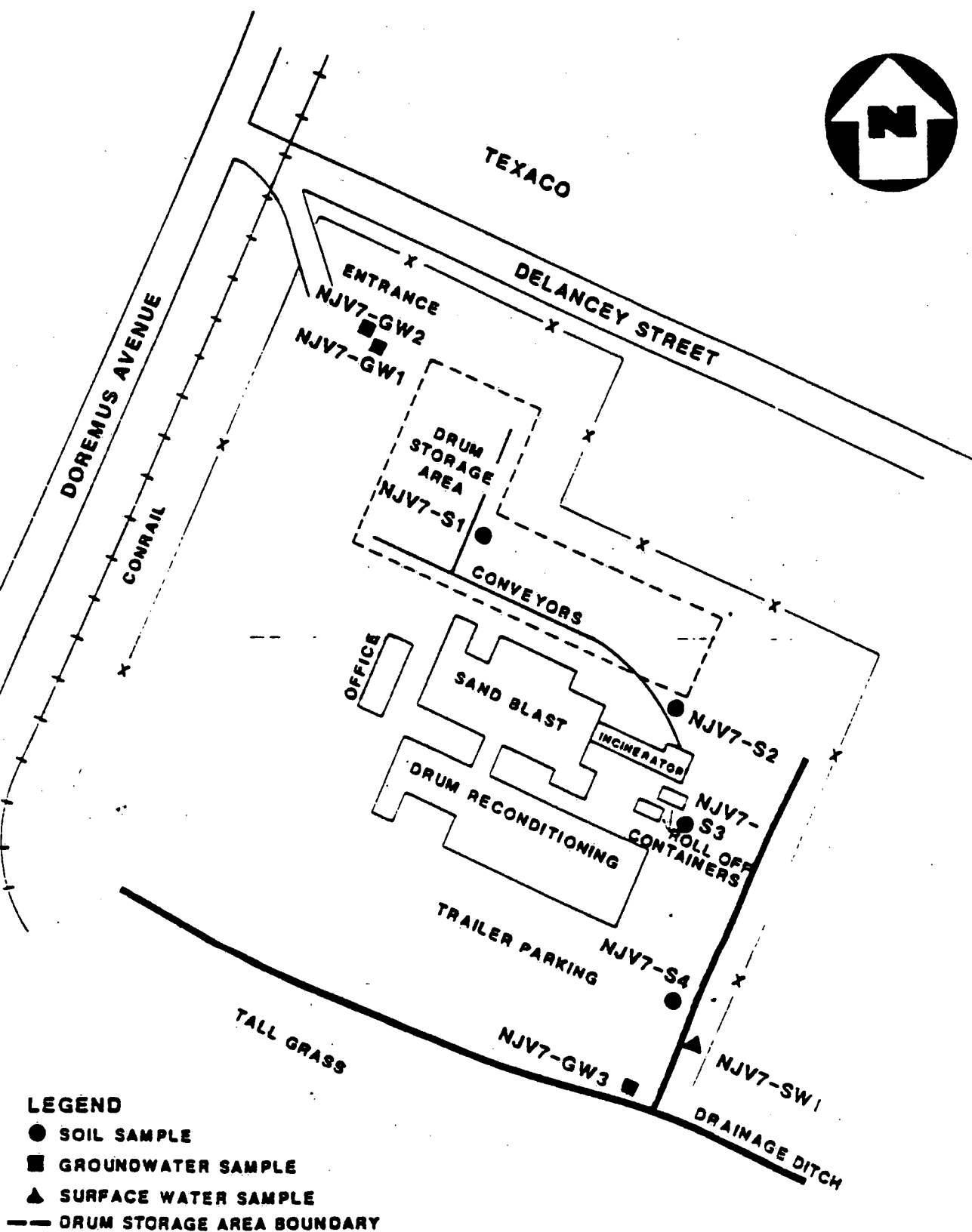
SITE LOCATION MAP
CENTRAL STEEL DRUM, NEWARK, N.J.

(NOT TO SCALE)

FIGURE A-1

NUS
 CORPORATION

N A Halliburton Company



SAMPLE LOCATION MAP
CENTRAL STEEL DRUM, NEWARK, N.J.

(NOT TO SCALE)

FIGURE A-2

TABLE I
Sample Descriptions
Central Steel Drum
Newark, New Jersey
CASE #5507

<u>Sample ID Number</u>	<u>Organic Traffic Report #</u>	<u>Inorganic Traffic Report #</u>	<u>Date</u>	<u>Time (Hours)</u>	<u>Sample Type</u>	<u>Sample Location</u>
S1	BF590	MBF433	2/05/86	1108	Soil	Adjacent to convey belt in drain staging area.
S2	BF591	MBF434	2/05/86	1126	Soil	Fifty feet from inc erator adjacent to conveyor belt.
S3	BF592	MBF435	2/05/86	1135	Soil	Adjacent to manife waste storage on south side of incinerator.
S4	BF593	MBF436	2/05/86	1555	Soil	Adjacent to draina ditch at southeast of property.
GW1	BF583	MBF426	2/05/86	1235	Aqueous	Shallow well #102 entrance.
GW2	BF584	MBF427	02/85/86	1400	Aqueous	Deep well #202 by entrance.
GW3	BF585	MBF428	2/05/86	1545	Aqueous	Deep well #204 at southeast corner property.
SW1	BF589	MBF432	2/05/86	1500	Aqueous	Surface water fro drainage ditch at southeast corner property.
Blank-1	BF594	MBF437	2/05/86	N/A	Sample Blank	U.S. EPA Lab Edison, NJ.

ORGANIC DATA REPORTING QUALIFIERS

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags must be explicit.

Value -If the result is a value greater than or equal to the detection limit, report the value.

U -Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J -Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J)

C -This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/ul in the final extract should be confirmed by GC/MS.

B -This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other -Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Organics Analysis Data Sheet (Page 1)

BF 590

Laboratory Name: ETC Corp.
Lab Sample ID No: L1495V
Sample Matrix: Soil
Data Release Authorized By: C. Dwyer

Case No: 5507
QC Report No: QV4400
Contract No: 68-01-6766, 6788, 6789, 6790
Date Sample Received: 2/6/86

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 2/13/86
Date Analyzed: 2/13/86
Conc/Dil Factor: 1 pH 6.9
Percent Moisture: (Not Decanted) 21.0%

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	5.1 U
74-83-9	Bromomethane	5.1 U
75-01-4	Vinyl Chloride	5.1 U
75-00-3	Chloroethane	5.1 U
75-08-2	Methylene Chloride	100.5 B
67-64-1	Acetone	180.2 B
75-15-0	Carbon Disulfide	5.1 U
75-35-4	1, 1-Dichloroethane	5.1 U
75-34-3	1, 1-Dichloroethane	5.1 U
156-60-5	Trans-1, 2-Dichloroethane	5.1 U
67-66-3	Chloroform	5.1 U
107-06-2	1, 2-Dichloroethane	5.1 U
78-93-3	2-Butanone	5.1 U
71-55-6	1, 1, 1-Trichloroethane	160.2
56-23-5	Carbon Tetrachloride	5.1 U
108-05-4	Vinyl Acetate	5.1 U
75-27-4	Bromodichloromethane	5.1 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5.1 U
10061-02-6	Trans-1, 3-Dichloropropane	5.1 U
79-01-6	Trichloroethene	5.1 U
124-48-1	Dibromochloromethane	5.1 U
79-00-5	1, 1, 2-Trichloroethane	5.1 U
71-43-2	Benzene	5.1 U
10061-01-5	cis-1, 3-Dichloropropane	5.1 U
110-75-8	2-Chloroethylvinylether	5.1 U
75-25-2	Bromoform	5.1 U
108-10-1	4-Methyl-2-Pentanone	5.1 U
591-78-6	2-Hexanone	5.1 U
127-18-4	Tetrachloroethene	5.1 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5.1 U
108-88-3	Toluene	8.6
108-90-7	Chlorobenzene	5.1 U
100-41-4	Ethylbenzene	7.1
100-42-5	Styrene	5.1 U
	Total Xylenes	56.8

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be exact.

Value If the result is a value greater than or equal to the detection limit, report the value

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U to g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum obtainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/g in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/possible blank contamination and warns the data user to take appropriate action

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

Laboratory Name: ETC Corp.

Case No: 5507

Sample Number
BF 590

Organics Analysis Data Sheet (Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2/25/86

Date Analyzed: 3/8/86 AM

Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	23000 U
108-95-2	Phenol	46000 U
62-53-3	Aniline	23000 U
111-44-4	bis(2-Chloroethyl)Ether	23000 U
95-57-8	2-Chlorophenol	46000 U
541-73-1	1,3-Dichlorobenzene	23000 U
106-46-7	1,4-Dichlorobenzene	23000 U
100-51-6	Benzyl Alcohol	23000 U
95-50-1	1,2-Dichlorobenzene	23000 U
95-48-7	2-Methylphenol	46000 U
39638-32-9	bis(2-chloroisopropyl)Ether	23000 U
106-44-5	4-Methylphenol	46000 U
621-64-7	N-Nitroso-Di-n-Propylamine	23000 U
67-72-1	Hexachloroethane	23000 U
98-95-3	Nitrobenzene	23000 U
78-59-1	Isophorone	23000 U
88-75-5	2-Nitrophenol	46000 U
105-67-9	2,4-Dimethylphenol	46000 U
65-85-0	Benzoic Acid	46000 U
111-91-1	bis(2-Chloroethoxy)Methane	23000 U
120-83-2	2,4-Dichlorophenol	46000 U
120-82-1	1,2,4-Trichlorobenzene	23000 U
91-20-3	Naphthalene	23000 U
106-47-8	4-Chloroaniline	23000 U
87-68-3	Hexachlorobutadiene	23000 U
59-50-7	4-Chloro-3-Methylphenol	46000 U
91-57-6	2-Methylnaphthalene	23000 U
77-47-4	Hexachlorocyclopentadiene	23000 U
88-06-2	2,4,6-Trichlorophenol	46000 U
95-95-4	2,4,5-Trichlorophenol	46000 U
91-58-7	2-Chloronaphthalene	23000 U
88-74-4	2-Nitroaniline	23000 U
131-11-3	Dimethyl Phthalate	23000 U
208-96-8	Acenaphthylene	23000 U
99-09-2	3-Nitroaniline	23000 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	23000 U
51-28-5	2,4-Dinitrophenol	46000 U
100-02-7	4-Nitrophenol	46000 U
132-64-9	Dibenzofuran	23000 U
121-14-2	2,4-Dinitrotoluene	23000 U
806-20-2	2,6-Dinitrotoluene	23000 U
84-68-2	Diethylphthalate	23000 U
7005-72-3	4-Chlorophenyl-phenylether	23000 U
86-73-7	Fluorene	23000 U
100-01-6	4-Nitroaniline	23000 U
534-52-1	4,6-Dinitro-2-Methylphenol	46000 U
86-30-6	N-Nitrosodiphenylamine (1)	23000 U
101-55-3	4-Bromophenyl-phenylether	23000 U
118-74-1	Hexachlorobenzene	23000 U
87-86-5	Pentachlorophenol	46000 U
85-01-8	Phenanthrene	23000 U
120-12-7	Anthracene	23000 U
84-74-2	Di-n-Butylphthalate	23000 U
208-44-0	Fluorenone	23000 U
92-87-5	Benidine	23000 U
129-00-0	Pyrene	23000 U
85-68-7	Butylbenzylphthalate	23000 U
91-94-1	3,3'-Dichlorobenzidine	23000 U
56-55-3	Benzo(a)Anthracene	23000 U
117-81-7	bis(2-Ethylhexyl)Phthalate	23000 U
218-01-9	Chrysene	23000 U
117-84-0	Di-n-Octyl Phthalate	23000 U
205-99-2	Benzo(b)Fluoranthene	23000 U
207-08-9	Benzo(k)Fluoranthene	23000 U
50-32-8	Benzo(a)Pyrene	23000 U
193-39-5	Indeno(1,2,3-cd)Pyrene	23000 U
53-70-3	Dibenz(a,h)Anthracene	23000 U
191-24-2	Benzo(g,h,i)Perylene	23000 U

(1) Cannot be separated from diphenylamine

Case No: 550 /Organics Analysis Data Sheet
(Page 3)

BF 590

Pesticide/PCBs

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 21/2/83Date Analyzed: 31/2/83Conc/Dil Factor: 25 50CAS
Numberug/l or ug/Kg
(Circle One)

319-84-6	Alpha-BHC	150 u
319-85-7	Beta-BHC	150 u
319-86-8	Delta-BHC	530 u
58-89-9	Gamma-BHC (Lindane)	150 u
76-44-8	Heptachlor	290 u
309-00-2	Aldrin	290 u
1024-57-3	Heptachlor Epoxide	1700 u
959-98-8	Endosulfan I	530 u
60-57-1	Dieldrin	760 u
72-55-9	4,4'-DDE	590 u
72-20-8	Endrin	1000 u
33213-65-9	Endosulfan II	590 u
72-54-8	4,4'-DDD	150 u
7421-93-4	Endrin Alderhyde	1700 u
1031-07-8	Endosulfan Sulfate	3600 u
50-29-3	4,4'-DDT	290 u
72-43-5	Methoxychlor	2500 u
53494-70-5	Endrin Ketone	5900 u
57-74-9	Chlordane	150000
8001-35-2	Toxaphene	17000 u
12674-11-2	Aroclor-1016	9000 u
11104-28-2	Aroclor-1221	7300 u
11141-16-5	Aroclor-1232	840 u
53469-21-9	Aroclor-1242	6200 u
12672-29-6	Aroclor-1248	2500 u
11097-69-1	Aroclor-1254	2300 u
11096-82-5	Aroclor-1260	2400 u

 V_i = Volume of extract injected (ul) V_s = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_s _____ or W_s 75 V_i 1000 V_t 3

Organics Analysis Data Sheet
(Page 1)

04571

Laboratory Name: ETC Corp.
Sample ID No: L1496V
Sample Matrix: Soil
Release Authorized By: C. Dwyer

Case No: 5507
QC Report No: QV4400
Contract No: 68-01-6766, 6788, 6789, 6790
Date Sample Received: 2/6/86

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 2/13/86
Date Analyzed: 2/13/86
Conc/Dil Factor: 1 pH 7.6
Percent Moisture: (Not Decanted) 38.7

CAS Number		ug/l or ug/Kg (Circle One)
64-17-3	Chloromethane	6.5U
74-83-9	Bromomethane	6.5U
75-01-4	Vinyl Chloride	6.5U
75-20-3	Chloroethane	6.5U
75-08-2	Methylene Chloride	95.2B
74-41-1	Acetone	120.2B
75-15-0	Carbon Disulfide	6.5U
75-34-4	1, 1-Dichloroethane	6.5U
75-34-3	1, 1-Dichloroethane	6.5U
75-40-5	Trans-1, 2-Dichloroethane	6.5U
75-46-3	Chloroform	6.5U
75-08-2	1, 2-Dichloroethane	6.5U
75-33-3	2-Butanone	560
75-35-6	1, 1, 1-Trichloroethane	6.5U
75-23-5	Carbon Tetrachloride	6.5U
75-05-4	Vinyl Acetate	6.5U
75-17-4	Bromodichloromethane	6.5U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	6.5U
10061-02-6	Trans-1, 3-Dichloropropane	6.5U
79-01-8	Trichloroethene	6.5U
124-48-1	Dibromochloromethane	6.5U
79-00-5	1, 1, 2-Trichloroethane	6.5U
71-43-2	Benzene	1.1J
10061-01-5	cis-1, 3-Dichloropropane	6.5U
110-75-8	2-Chloroethylvinylether	6.5U
75-25-2	Bromoform	6.5U
108-10-1	4-Methyl-2-Pentanone	14.2B
591-78-6	2-Hexanone	6.5U
127-18-4	Tetrachloroethene	6.5U
79-34-5	1, 1, 2, 2-Tetrachloroethane	6.5U
108-88-3	Toluene	50.2B
108-90-7	Chlorobenzene	6.5U
100-41-4	Ethylbenzene	6.7
100-42-5	Styrene	6.5U
	Total Xylenes	30.2B

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used.
Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

I If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/l in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

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Laboratory Name: _____
 Case No: 5507

Sample Number
BF591

Organics Analysis Data Sheet (Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2/25/86

Date Analyzed: 3/4/86

Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	30000 U
106-95-2	Phenol	60000 U
62-53-3	Aniline	30000 U
111-44-4	bis(2-Chloroethyl)Ether	30000 U
95-57-8	2-Chlorophenol	60000 U
541-73-1	1,3-Dichlorobenzene	30000 U
106-46-7	1,4-Dichlorobenzene	30000 U
100-51-8	Benzyl Alcohol	30000 U
95-50-1	1,2-Dichlorobenzene	30000 U
95-48-7	2-Methylphenol	60000 U
39638-32-9	bis(2-chloroisopropyl)Ether	30000 U
106-44-5	4-Methylphenol	60000 U
621-64-7	N-Nitroso-Di-n-Propylamine	30000 U
67-72-1	Hexachloroethane	30000 U
98-95-3	Nitrobenzene	30000 U
78-59-1	Isophorone	30000 U
88-75-5	2-Nitrophenol	60000 U
105-67-9	2,4-Dimethylphenol	60000 U
65-85-0	Benzoic Acid	60000 U
111-91-1	bis(2-Chloroethoxy)Methane	30000 U
120-83-2	2,4-Dichlorophenol	60000 U
120-82-1	1,2,4-Trichlorobenzene	30000 U
91-20-3	Naphthalene	30000 U
106-47-8	4-Chloroaniline	30000 U
87-68-3	Hexachlorobutadiene	30000 U
59-50-7	4-Chloro-3-Methylphenol	60000 U
91-57-6	2-Methylnaphthalene	60000 U
77-47-4	Hexachlorocyclopentadiene	30000 U
88-06-2	2,4,6-Trichlorophenol	60000 U
95-95-4	2,4,5-Trichlorophenol	60000 U
91-58-7	2-Chloronaphthalene	30000 U
88-74-4	2-Nitroaniline	30000 U
131-11-3	Dimethyl Phthalate	30000 U
208-96-8	Acenaphthylene	30000 U
99-09-2	3-Nitroaniline	30000 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	30000 U
51-28-5	2,4-Dinitrophenol	60000 U
100-02-7	4-Nitrophenol	60000 U
132-64-9	Dibenzofuran	30000 U
121-14-2	2,4-Dinitrotoluene	30000 U
806-20-2	2,6-Dinitrotoluene	30000 U
84-66-2	Diethylphthalate	30000 U
7005-72-3	4-Chlorophenyl-phenylether	30000 U
86-73-7	Fluorene	30000 U
100-01-6	4-Nitroaniline	30000 U
534-52-1	4,6-Dinitro-2-Methylphenol	60000 U
86-30-6	N-Nitrosodiphenylamine (1)	30000 U
101-55-3	4-Bromophenyl-phenylether	30000 U
118-74-1	Hexachlorobenzene	30000 U
97-86-5	Pentachlorophenol	60000 U
85-01-8	Phenanthrene	30000 U
120-12-7	Anthracene	30000 U
84-74-2	Di-n-Butylphthalate	30000 U
206-44-0	Fluoranthene	30000 U
92-87-5	Benzidine	30000 U
129-00-0	Pyrene	30000 U
85-68-7	Butylbenzylphthalate	30000 U
91-94-1	3,3'-Dichlorobenzidine	30000 U
56-55-3	Benzofluoranthene	30000 U
117-81-7	bis(2-Ethylhexyl)Phthalate	30000 U
218-01-9	Chrysene	30000 U
117-84-0	Di-n-Octyl Phthalate	30000 U
205-99-2	Benzofluoranthene	30000 U
207-08-9	Benzofluoranthene	30000 U
50-32-8	Benzofluoranthene	30000 U
193-39-5	Indeno(1,2,3-cd)Pyrene	30000 U
53-70-3	Dibenz(a,h)Anthracene	30000 U
191-24-2	Benzofluoranthene	30000 U

(1)-Cannot be separated from diphenylamine

Case No: 550 /

BF 571

Organics Analysis Data Sheet (Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)
 Date Extracted/Prepared: 2/12/83
 Date Analyzed: 3/29/83
 Conc./Dil Factor: 10

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	35 u
319-85-7	Beta-BHC	35 u
319-86-8	Delta-BHC	130 u
58-89-9	Gamma-BHC (Lindane)	35 u
76-44-8	Heptachlor	70 u
309-00-2	Aldrin	70 u
1024-57-3	Heptachlor Epoxide	460 u
959-98-8	Endosulfan I	130 u
60-57-1	Dieldrin	180 u
72-55-9	4,4'-DDE	1100
72-20-8	Endrin	250 u
33213-65-9	Endosulfan II	140 u
72-54-8	4,4'-DDD	35 u
7421-93-4	Endrin Alderhyde	410 u
1031-07-8	Endosulfan Sulfate	870 u
50-29-3	4,4'-DDT	70 u
72-43-5	Methoxychlor	1100 u
53494-70-5	Endrin Ketone	1400 u
57-74-9	Chlordane	48000
8001-35-2	Toxaphene	4000 u
12674-11-2	Aroclor-1016	2100 u
11104-28-2	Aroclor-1221	1700 u
11141-16-8	Aroclor-1232	200 u
53489-21-9	Aroclor-1242	1500 u
12672-29-8	Aroclor-1248	1100 u
11097-69-1	Aroclor-1254	550 u
11098-82-5	Aroclor-1260	580 u

V_i = Volume of extract injected (ul)
 V_s = Volume of water extracted (ml)
 W_s = Weight of sample extracted (g)
 V_t = Volume of total extract (ul)

V_s _____ or W_s .81 V_t 1000 V_i 3

Organics Analysis Data Sheet (Page 1)

BF592

Laboratory Name: ETC Corp.
 Sample ID No: L1497V
 Sample Matrix: Soil
 Data Release Authorized By: C. Dwyer

Case No: 5507
 QC Report No: QV4406
 Contract No: 68-01-6766, 6788, 6789, 679
 Date Sample Received: 2/6/86

Volatile Compounds

Concentration: Low Medium (Circle One)
 Date Extracted/Prepared: 2/14/86
 Date Analyzed: 2/14/86
 Conc/Dil Factor: 1 pH 6.9
 Percent Moisture (Not Decanted): 40.7

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	6700U
74-83-9	Bromomethane	6700U
75-01-4	Vinyl Chloride	6700U
75-00-3	Chloroethane	6700U
75-09-2	Methylene Chloride	49,000B 35,000B Rg
67-64-1	Acetone	92,000B 51,000B Rg
75-15-0	Carbon Disulfide	6700U
75-35-4	1, 1-Dichloroethane	6700U
75-34-3	1, 1-Dichloroethane	6700U
75-60-5	Trans-1, 2-Dichloroethane	6700U
67-66-3	Chloroform	6700U
77-06-2	1, 2-Dichloroethane	6700U
78-93-3	2-Butanone	6700U
71-55-6	1, 1, 1-Trichloroethane	3700U
75-23-5	Carbon Tetrachloride	6700U
78-05-4	Vinyl Acetate	6700U
75-27-4	Bromodichloromethane	6700U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	6700U
10061-02-6	Trans-1, 3-Dichloropropane	6700U
79-01-6	Trichloroethene	6700U
124-48-1	Dibromochloromethane	6700U
79-00-5	1, 1, 2-Trichloroethane	6700U
71-43-2	Benzene	6700U
10061-01-5	cis-1, 3-Dichloropropane	6700U
110-75-8	2-Chloroethoxyvinyl ether	6700U
75-25-2	Bromoform	6700U
108-10-1	4-Methyl-2-Pentanone	6700U
591-78-6	2-Hexanone	6700U
127-18-4	Tetrachloroethane	3900
79-34-5	1, 1, 2, 2-Tetrachloroethane	6700U
108-88-3	Toluene	92,000
108-90-7	Chlorobenzene	6700U
100-41-4	Ethylbenzene	38,000
100-42-5	Styrene	33,000
	Total Xylenes	190,000

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used.
 Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

A If the result is a value greater than or equal to the detection limit report the value

B Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read U. Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

C Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS

D This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

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Case No:

5507

Sample Number

BF592

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2/25/86

Date Analyzed: 3/4/86

Conc/Dil Factor: 1

CAS Number		ug/L or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	30000 U
108-95-2	Phenol	60000 U
62-53-3	Aniline	30000 U
111-44-4	bis(2-Chloroethyl)Ether	30000 U
95-57-8	2-Chlorophenol	60000 U
541-73-1	1,3-Dichlorobenzene	30000 U
108-46-7	1,4-Dichlorobenzene	30000 U
100-51-6	Benzyl Alcohol	30000 U
95-50-1	1,2-Dichlorobenzene	30000 U
95-48-7	2-Methylphenol	60000 U
39638-32-9	bis(2-chloroisopropyl)Ether	30000 U
108-44-5	4-Methylphenol	60000 U
621-64-7	N-Nitroso-Di-n-Propylamine	30000 U
67-72-1	Hexachloroethane	30000 U
98-95-3	Nitrobenzene	30000 U
78-59-1	Isophorone	30000 U
88-75-5	2-Nitrophenol	60000 U
105-67-9	2,4-Dimethylphenol	60000 U
65-85-0	Benzoic Acid	60000 U
111-91-1	bis(2-Chloroethoxy)Methane	30000 U
120-83-2	2,4-Dichlorophenol	60000 U
120-82-1	1,2,4-Trichlorobenzene	30000 U
91-20-3	Naphthalene	30000 U
106-47-8	4-Chloroaniline	30000 U
87-68-3	Hexachlorobutadiene	30000 U
59-50-7	4-Chloro-3-Methylphenol	60000 U
91-57-6	2-Methylnaphthalene	30000 U
77-47-4	Hexachlorocyclopentadiene	30000 U
88-06-2	2,4,6-Trichlorophenol	60000 U
98-95-4	2,4,5-Trichlorophenol	60000 U
91-58-7	2-Chloronaphthalene	30000 U
98-74-4	2-Nitroaniline	30000 U
131-11-3	Dimethyl Phthalate	30000 U
208-98-8	Acenaphthylene	30000 U
99-09-2	3-Nitroaniline	30000 U

CAS Number		ug/L or ug/Kg (Circle One)
83-32-9	Acenaphthene	30000 U
51-28-5	2,4-Dinitrophenol	60000 U
100-02-7	4-Nitrophenol	60000 U
132-64-9	Dibenzofuran	20000 U
121-14-2	2,4-Dinitrotoluene	20000 U
606-20-2	2,6-Dinitrotoluene	30000 U
84-66-2	Diethylphthalate	30000 U
7005-72-3	4-Chlorophenyl-phenylether	30000 U
86-73-7	Fluorene	30000 U
100-01-6	4-Nitroaniline	30000 U
534-52-1	4,6-Dinitro-2-Methylphenol	60000 U
86-30-6	N-Nitrosodiphenylamine (1)	30000 U
101-55-3	4-Bromophenyl-phenylether	30000 U
118-74-1	Hexachlorobenzene	30000 U
87-86-5	Pentachlorophenol	60000 U
85-01-8	Phenanthrene	30000 U
120-12-7	Anthracene	30000 U
84-74-2	Di-n-Butylphthalate	30000 U
206-44-0	Fluoranthene	30000 U
92-87-5	Benzidine	30000 U
129-00-0	Pyrene	30000 U
85-68-7	Butylbenzylphthalate	30000 U
91-94-1	3,3'-Dichlorobenzidine	30000 U
56-55-3	Benz(a)Anthracene	30000 U
117-81-7	bis(2-Ethylhexyl)Phthalate	130000
218-01-9	Chrysene	30000 U
117-84-0	Di-n-Octyl Phthalate	30000 U
205-99-2	Benz(b)Fluoranthene	30000 U
207-08-9	Benz(k)Fluoranthene	30000 U
50-32-8	Benz(a)Pyrene	30000 U
193-39-5	Indeno(1,2,3-cd)Pyrene	30000 U
53-70-3	Dibenz(a,h)Anthracene	30000 U
191-24-2	Benz(a,g,h,i)Perylene	30000 U

(1)-Cannot be separated from diphenylamine

Organics Analysis Data Sheet (Page 3)

07-1-

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2/12/86

Date Analyzed: 3/29/86

Conc/Dil Factor: 10

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	36 u
319-85-7	Beta-BHC	36 u
319-86-8	Delta-BHC	130 u
58-89-9	Gamma-BHC (Lindane)	36 u
76-44-8	Heptachlor	72 u
309-00-2	Aldrin	72 u
1024-57-3	Heptachlor Epoxide	470 u
959-98-8	Endosulfan I	130 u
60-57-1	Dieldrin	190 u
72-55-9	4,4'-DDE	150 u
72-20-8	Endrin	260 u
33213-65-9	Endosulfan A	150 u
72-54-8	4,4'-DDD	36 u
7421-93-4	Endrin Aldehyde	420 u
1031-07-8	Endosulfan Sulfate	900 u
50-29-3	4,4'-DDT	72 u
72-43-5	Methoxychlor	1100 u
53494-70-5	Endrin Ketone	1500 u
57-74-9	Chlordane	410 u
8001-35-2	Toxaphene	4110 u
12674-11-2	Aroclor-1016	2200 u
11104-28-2	Aroclor-1221	1800 u
11147-16-5	Aroclor-1232	210 u
53469-21-9	Aroclor-1242	1500 u
12672-29-6	Aroclor-1248	1100 u
11097-69-1	Aroclor-1254	570 u
11096-82-5	Aroclor-1260	600 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 81 V_i 1000 V_t 3

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Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ETC Corp.
 Sample ID No: L1498V
 Sample Matrix: Soil
 Release Authorized By: C. Dwyer

Case No: 5507
 QC Report No: QU4400
 Contract No: 68-01-6766, 6788, 6789, 6790
 Date Sample Received: 2/6/86

Volatile Compounds

Concentration: (Low) Medium (Circle One)
 Date Extracted/Prepared: 2/13/86
 Date Analyzed: 2/13/86
 Conc/Dil Factor: 1 pH 7.1
 Percent Moisture: (Not Decanted) 29.2

CAS Number		ug/l or ug/Kg (Circle One)
75-07-3	Chloromethane	5.6 U
75-07-9	Bromomethane	5.6 U
75-01-4	Vinyl Chloride	5.6 U
75-00-3	Chloroethane	5.6 U
75-08-2	Methylene Chloride	120.8 B co
75-44-1	Acetone	180.8 B co
75-15-0	Carbon Disulfide	5.6 U
75-35-4	1, 1-Dichloroethane	5.6 U
75-34-3	1, 1-Dichloroethane	5.6 U
75-00-5	Trans-1, 2-Dichloroethane	5.6 U
75-08-3	Chloroform	5.6 U
75-08-2	1, 2-Dichloroethane	5.6 U
75-33-3	2-Butanone	110.8 B co
75-35-8	1, 1, 1-Trichloroethane	5.6 U
75-33-5	Carbon Tetrachloride	5.6 U
75-05-4	Vinyl Acetate	5.6 U
75-17-4	Bromodichloromethane	5.6 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5.6 U
10061-02-6	Trans-1, 3-Dichloropropane	5.6 U
79-01-8	Trichloroethene	5.6 U
124-48-1	Dibromochloromethane	5.6 U
79-00-5	1, 1, 2-Trichloroethane	5.6 U
71-43-2	Benzene	5.6 U
10061-01-5	cis-1, 3-Dichloropropane	5.6 U
110-75-8	2-Chloroethylvinyl ether	5.6 U
75-25-2	Bromoform	5.6 U
108-10-1	4-Methyl-2-Pentanone	5.6 U
591-78-6	2-Hexanone	5.6 U
127-18-4	Tetrachloroethene	5.6 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	5.6 U
108-88-3	Toluene	50.8 B co
108-90-7	Chlorobenzene	5.6 U
100-41-4	Ethylbenzene	14.8 B co
100-42-5	Styrene	12.8 B co
	Total Xylenes	74.8 B co

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

If the result is a value greater than or equal to the detection limit, report the value.

Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum obtainable detection limit for the sample.

Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.

C This flag applies to pesticide parameters where the standard has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/l in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/prebable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and then described attached to the data summary report.

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Organics Analysis Data Sheet (Page 2)

BF 593

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2-26-86

Date Analyzed: 3-5-86

Conc/Dil Factor: 1

Moisture (%): 29.2%

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	820 u
108-95-2	Phenol	1600 u
62-53-3	Aniline	820 u
111-44-4	bis(2-Chloroethyl)Ether	820 u
95-57-8	2-Chlorophenol	1600 u
541-73-1	1,3-Dichlorobenzene	820 u
106-46-7	1,4-Dichlorobenzene	820 u
100-51-6	Benzyl Alcohol	820 u
95-50-1	1,2-Dichlorobenzene	820 u
35-48-7	2-Methylphenol	1600 u
19638-32-9	bis(2-chloroisopropyl)Ether	820 u
105-44-5	4-Methylphenol	1600 u
521-64-7	N-Nitroso-Di-n-Propylamine	820 u
57-72-1	Hexachloroethane	820 u
38-35-3	Nitrobenzene	820 u
78-59-1	Isophorone	820 u
33-75-5	2-Nitrophenol	1600 u
105-67-9	2,4-Dimethylphenol	1600 u
33-85-0	Benzoic Acid	1600 u
111-91-1	bis(2-Chloroethoxy)Methane	820 u
100-83-2	2,4-Dichlorophenol	1000 u
100-82-1	1,2,4-Trichlorobenzene	250 T
91-20-3	Naphthalene	310 T
36-47-8	4-Chloroaniline	820 u
37-68-3	Hexachlorobutadiene	820 u
59-50-7	4-Chloro-3-Methylphenol	1600 u
31-57-6	2-Methylnaphthalene	120 T
77-47-4	Hexachlorocyclopentadiene	820 u
38-06-2	2,4,6-Trichlorophenol	1600 u
35-95-4	2,4,5-Trichlorophenol	1600 u
31-58-7	2-Chloronaphthalene	820 u
38-74-4	2-Nitroaniline	820 u
31-11-3	Dimethyl Phthalate	820 u
129-96-8	Acenaphthylene	820 u
31-29-2	3-Nitroaniline	820 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	820 u
51-28-5	2,4-Dinitrophenol	1600 u
100-02-7	4-Nitrophenol	1600 u
132-64-9	Dibenzofuran	820 u
121-14-2	2,4-Dinitrotoluene	820 u
806-20-2	2,6-Dinitrotoluene	820 u
84-66-2	Diethylphthalate	820 u
7005-72-3	4-Chlorobenzyl-phenylether	820 u
88-73-7	Fluorene	820 u
100-01-6	4-Nitroaniline	820 u
534-52-1	4,6-Dinitro-2-Methylphenol	1600 u
88-30-8	N-Nitrosodimethylamine (1)	820 u
101-55-3	4-Bromophenyl-phenylether	820 u
118-741	Hexachlorobenzene	820 u
87-86-5	Pentachlorophenol	1600 u
85-01-8	Phenanthrene	200 T
120-12-7	Anthracene	820 u
84-74-2	Di-n-Butylphthalate	550 T
206-44-0	Fluoranthene	310 T
92-87-5	Benzidine	820 u
129-00-0	Pyrene	200 T
85-88-7	Butylbenzylphthalate	600 T
91-94-1	3,3'-Dichlorobenzidine	820 u
56-55-3	Benzo(a)Anthracene	820 u
117-81-7	bis(2-Ethylhexyl)Phthalate	3800 B
218-01-9	Chrysene	190 T
117-84-0	Di-n-Octyl Phthalate	820 u
205-99-2	Benzobifluoranthene	500 T
207-08-9	Benzokifluoranthene	270 T
50-32-8	Benzo(a)Pyrene	210 T
193-39-5	Indeno(1,2,3-cd)Pyrene	820 u
53-70-3	Dibenz(a,h)Anthracene	820 u
191-24-2	Benzo(g,h,i)Perylene	820 u

(1)-Cannot be separated from diphenylamine

Case No: _____

Organics Analysis Data Sheet (Page 3)

BF593

Pesticide/PCBs

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/12/86Date Analyzed: 3/29/86Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	2.9 u
319-85-7	Beta-BHC	2.9 u
319-86-8	Delta-BHC	10 u
58-89-9	Gamma-BHC (Lindane)	2.9 u
76-44-8	Heptachlor	5.8 u
309-00-2	Aldrin	5.8 u
1024-57-3	Heptachlor Epoxide	3.8 u
959-98-8	Endosulfan I	11 u
60-57-1	Dieldrin	15 u
72-55-9	4,4'-DDE	1300
72-20-8	Endrin	21 u
33213-65-9	Endosulfan II	12 u
72-54-8	4,4'-DDD	2.9 u
7421-93-4	Endrin Alderhyde	36 u
1031-07-8	Endosulfan Sulfate	72 u
50-29-3	4,4'-DDT	5.8 u
72-43-5	Methoxychlor	89 u
53494-70-5	Endrin Ketone	120 u
57-74-9	Chlordane	33 u
8001-35-2	Toxaphene	330 u
12674-11-2	Aroclor-1016	180 u
11104-28-2	Aroclor-1221	150 u
11141-16-5	Aroclor-1232	17 u
53469-21-9	Aroclor-1242	120 u
12672-29-6	Aroclor-1248	90 u
11097-69-1	Aroclor-1254	1900 450
11096-82-5	Aroclor-1260	48 u

 V_i = Volume of extract injected (ul) V_s = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul)
 V_s _____ or W_s 86 V_i 1000 V_t 3

150

Organics Analysis Data Sheet (Page 1)

Sample Number

BF583

Laboratory Name: ETC Corp.
Lab Sample ID No: 11690V
Sample Matrix: WATER
Date Release Authorized By: C. Dwyer

Case No: 5507
QC Report No: 014372
Contract No: 68-01-6766, 6788, 6789, 6790
Date Sample Received: 2/6/86

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 02-08-86
Date Analyzed: 02-08-86
Conc/Dil Factor: 1 pH
Percent Moisture: (Not Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	4.0U
74-83-9	Bromomethane	4.0U
75-01-4	Vinyl Chloride	4.0U
75-00-3	Chloroethane	4.0U
75-09-2	Methylene Chloride	2.185
67-64-1	Acetone	1.66
75-15-0	Carbon Disulfide	4.0U
75-35-4	1, 1-Dichloroethane	4.0U
75-34-3	1, 1-Dichloroethane	4.0U
156-60-5	Trans-1, 2-Dichloroethane	4.0U
67-66-3	Chloroform	4.0U
107-06-2	1, 2-Dichloroethane	4.0U
78-93-3	2-Butanone	4.0U
71-55-6	1, 1, 1-Trichloroethane	4.0U
56-23-5	Carbon Tetrachloride	4.0U
108-05-4	Vinyl Acetate	4.0U
75-27-4	Bromodichloromethane	4.0U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	4.0U
10061-02-6	Trans-1, 3-Dichloropropene	4.0U
79-01-6	Trichloroethene	4.0U
124-48-1	Dibromochloromethane	4.0U
79-00-5	1, 1, 2-Trichloroethane	4.0U
71-43-2	Benzene	4.0U
10061-01-5	cis-1, 3-Dichloropropene	4.0U
110-75-8	2-Chloroethoxyvinyl ether	4.0U
75-25-2	Bromoform	4.0U
108-10-1	4-Methyl-2-Pentanone	4.0U
591-78-6	2-Hexanone	4.0U
127-18-4	Tetrachloroethene	4.0U
79-34-5	1, 1, 2, 2-Tetrachloroethane	4.0U
108-88-3	Toluene	4.0U
108-90-7	Chlorobenzene	4.0U
100-41-4	Ethylbenzene	4.0U
100-42-5	Styrene	4.0U
	Total Xylenes	1.45

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- V** If the result is a value greater than or equal to the detection limit report the value.
- U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read U. Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- E** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.
- C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides 2:10 ng/l in the final extract should be confirmed by GC/MS.
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/preable blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name: ETC Corp.Case No: 5307

Sample Number

BF 583Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/10/96Date Analyzed: 2/11/86Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	20u
108-95-2	Phenol	40u
62-53-3	Aniline	20u
111-44-4	bis(2-Chloroethyl)Ether	20u
95-57-8	2-Chlorophenol	40u
541-73-1	1,3-Dichlorobenzene	20u
106-46-7	1,4-Dichlorobenzene	20u
100-51-6	Benzyl Alcohol	20u
95-50-1	1,2-Dichlorobenzene	20u
95-48-7	2-Methylphenol	40u
39638-32-9	bis(2-chloroisopropyl)Ether	20u
106-44-5	4-Methylphenol	40u
621-64-7	N-Nitroso-Di-n-Propylamine	20u
67-72-1	Hexachloroethane	20u
98-95-3	Nitrobenzene	20u
78-59-1	Isophorone	20u
88-75-5	2-Nitrophenol	40u
105-67-9	2,4-Dimethylphenol	40u
65-85-0	Benzoic Acid	40u
111-91-1	bis(2-Chloroethoxy)Methane	20u
120-83-2	2,4-Dichlorophenol	40u
120-82-1	1,2,4-Trichlorobenzene	20u
91-20-3	Naphthalene	20u
106-47-8	4-Chloroaniline	20u
87-68-3	Hexachlorobutadiene	20u
59-50-7	4-Chloro-3-Methylphenol	40u
91-57-6	2-Methylnaphthalene	20u
77-47-4	Hexachlorocyclopentadiene	20u
88-06-2	2,4,6-Trichlorophenol	40u
95-95-4	2,4,5-Trichlorophenol	40u
91-58-7	2-Chloronaphthalene	20u
88-74-4	2-Nitroaniline	20u
131-11-3	Dimethyl Phthalate	20u
208-96-8	Acenaphthylene	20u
99-09-2	3-Nitroaniline	20u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20u
51-28-5	2,4-Dinitrophenol	40u
100-02-7	4-Nitrophenol	40u
132-64-9	Dibenzofuran	20u
121-14-2	2,4-Dinitrotoluene	20u
606-20-2	2,6-Dinitrotoluene	20u
84-86-2	Diethylphthalate	20u
7005-72-3	4-Chlorophenyl-phenylether	20u
86-73-7	Fluorene	20u
100-01-6	4-Nitroaniline	20u
534-52-1	4,6-Dinitro-2-Methylphenol	40u
86-30-6	N-Nitrosodiphenylamine (1)	20u
101-55-3	4-Bromophenyl-phenylether	20u
118-74-1	Hexachlorobenzene	20u
87-86-5	Pentachlorophenol	40u
85-01-8	Phenanthrene	20u
120-12-7	Anthracene	20u
84-74-2	Di-n-Butylphthalate	20u
206-44-0	Fluoranthene	20u
92-87-5	Benzidine	20u
129-00-0	Pyrene	20u
85-88-7	Butylbenzylphthalate	20u
91-94-1	3,3'-Dichlorobenzidine	20u
56-55-3	Benz(a)Anthracene	20u
117-81-7	bis(2-Ethylhexyl)Phthalate	20u
218-01-9	Chrysene	20u
117-84-0	Di-n-Octyl Phthalate	20u
205-99-2	Benz(b)Fluoranthene	20u
207-08-9	Benz(k)Fluoranthene	20u
50-32-8	Benz(a)Pyrene	20u
193-39-5	Indeno(1,2,3-cd)Pyrene	20u
53-70-3	Dibenz(a,h)Anthracene	20u
191-24-2	Benz(a,g,h,i)Perylene	20u

(1)-Cannot be separated from diphenylamine

Case No: 3301BF593Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/10/86Date Analyzed: 3/26/86Conc/Dil Factor: 1CAS
Numberug/l or ug/Kg
(Circle One)

319-84-6	Alpha-BHC	0.017
319-85-7	Beta-BHC	0.017
319-86-8	Delta-BHC	0.062
58-89-9	Gamma-BHC (Lindane)	0.017
76-44-8	Heptachlor	0.035
309-00-2	Aldrin	0.035
1024-57-3	Heptachlor Epoxide	0.23
959-98-8	Endosulfan I	0.063
60-57-1	Dieldrin	0.090
72-55-9	4,4'-DDE	0.070
72-20-8	Endrin	0.12
33213-65-9	Endosulfan II	0.070
72-54-8	4,4'-DDD	0.017
7421-93-4	Endrin Aldehyde	0.20
1031-07-8	Endosulfan Sulfate	0.43
50-29-3	4,4'-DDT	0.035
72-43-5	Methoxychlor	0.53
53494-70-5	Endrin Ketone	0.70
57-74-9	Chlordane	0.20
8001-35-2	Toxaphene	2.0
12674-11-2	Aroclor-1016	1.1
11104-28-2	Aroclor-1221	0.97
11141-16-5	Aroclor-1232	0.10
53469-21-9	Aroclor-1242	0.73
12672-29-6	Aroclor-1248	0.53
11097-69-1	Aroclor-1254	0.27
11096-82-5	Aroclor-1260	0.29

 V_i = Volume of extract injected (ul) V_s = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_s 1000 or W_s _____ V_i 10000 V_t 3

Organics Analysis Data Sheet (Page 1)

Sample Number

BF 584

Laboratory Name ETC Corp.
 Sample ID No L1491V
 Sample Matrix Water
 Release Authorized By C. D. Myers

Case No: 5507
 QC Report No: 04372
 Contract No: 68-01-6766, 6788, 6789, 6790
 Date Sample Received: 2/6/86

Volatile Compounds

Concentration: Low Medium (Circle One)
 Date Extracted/Prepared: 2-8-86
 Date Analyzed: 2-8-86
 Conc/Dil Factor: 1 pH
 Percent Moisture: (Not Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	4.0u
74-83-9	Bromomethane	4.0u
75-31-4	Vinyl Chloride	4.0u
75-00-3	Chloroethane	4.0u
75-08-2	Methylene Chloride	6.25u
67-64-1	Acetone	30.0
75-15-0	Carbon Disulfide	4.0u
75-35-4	1, 1-Dichloroethane	4.0u
75-34-3	1, 1-Dichloroethane	4.0u
156-60-5	Trans-1, 2-Dichloroethane	4.0u
67-66-3	Chloroform	4.0u
107-06-2	1, 2-Dichloroethane	4.0u
75-93-3	2-Butanone	4.0u
75-55-6	1, 1, 1-Trichloroethane	4.0u
56-23-5	Carbon Tetrachloride	4.0u
121-05-4	Vinyl Acetate	4.0u
75-27-4	Bromodichloromethane	4.0u

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	4.0u
10061-02-6	Trans-1, 3-Dichloropropene	4.0u
79-01-6	Trichloroethane	4.0u
124-48-1	Dibromochloromethane	4.0u
79-00-5	1, 1, 2-Trichloroethane	4.0u
71-43-2	Benzene	4.0u
10061-01-5	cis-1, 3-Dichloropropene	4.0u
110-75-8	2-Chloroethylvinylether	4.0u
75-25-2	Bromoform	4.0u
108-10-1	4-Methyl-2-Pentanone	7.0
591-78-6	2-Hexanone	6.3
127-18-4	Tetrachloroethane	4.0u
79-34-5	1, 1, 2, 2-Tetrachloroethane	4.0u
108-88-3	Toluene	4.0u
108-90-7	Chlorobenzene	4.0u
100-41-4	Ethylbenzene	2.55
100-42-5	Styrene	4.0u
	Total Xylenes	2.35

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used.
 Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

A The result is a value greater than or equal to the detection limit.
 Report the value

B Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum obtainable detection limit for the sample

C Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ml in the final extract should be confirmed by GC/MS

S This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/prebiotic blank contamination and warns the data user to take appropriate action

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

Laboratory Name: _____
 Case No: 5307

Sample Number
BF586

Organics Analysis Data Sheet (Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2/1/86

Date Analyzed: 2/11/86

Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	20u
108-95-2	Phenol	40u
62-53-3	Aniline	20u
111-44-4	bis(2-Chloroethyl)Ether	20u
95-57-8	2-Chlorophenol	40u
541-73-1	1, 3-Dichlorobenzene	20u
106-46-7	1, 4-Dichlorobenzene	20u
100-51-6	Benzyl Alcohol	20u
95-50-1	1, 2-Dichlorobenzene	20u
95-48-7	2-Methylphenol	40u
39638-32-9	bis(2-chloroisopropyl)Ether	20u
106-44-5	4-Methylphenol	40u
621-64-7	N-Nitroso-Di-n-Propylamine	20u
67-72-1	Hexachloroethane	20u
98-95-3	Nitrobenzene	20u
78-59-1	Isophorone	20u
88-75-5	2-Nitrophenol	40u
105-67-9	2, 4-Dimethylphenol	40u
65-85-0	Benzoic Acid	40u
111-91-1	bis(2-Chloroethoxy)Methane	20u
120-83-2	2, 4-Dichlorophenol	40u
120-82-1	1, 2, 4-Trichlorobenzene	20u
91-20-3	Naphthalene	20u
106-47-8	4-Chloroaniline	20u
87-68-3	Hexachlorobutadiene	20u
59-50-7	4-Chloro-3-Methylphenol	40u
91-57-6	2-Methylnaphthalene	20u
77-47-4	Hexachlorocyclopentadiene	20u
88-06-2	2, 4, 6-Trichlorophenol	40u
95-95-4	2, 4, 5-Trichlorophenol	40u
91-58-7	2-Chloronaphthalene	20u
88-74-4	2-Nitroaniline	20u
131-11-3	Dimethyl Phthalate	20u
208-96-8	Acenaphthylene	20u
99-09-2	3-Nitroaniline	20u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20u
51-28-5	2, 4-Dinitrophenol	40u
100-02-7	4-Nitrophenol	40u
132-84-9	Dibenzofuran	20u
121-14-2	2, 4-Dinitrotoluene	20u
806-20-2	2, 6-Dinitrotoluene	20u
84-86-2	Diethylphthalate	20u
7005-72-3	4-Chlorophenyl-phenylether	20u
86-73-7	Fluorene	20u
100-01-6	4-Nitroaniline	20u
534-52-1	4, 6-Dinitro-2-Methylphenol	40u
86-30-6	N-Nitrosodiphenylamine (1)	20u
101-55-3	4-Bromophenyl-phenylether	20u
118-74-1	Hexachlorobenzene	20u
87-86-5	Pentachlorophenol	40u
85-01-8	Phenanthrene	20u
120-12-7	Anthracene	20u
84-74-2	Di-n-Butylphthalate	20u
206-44-0	Fluoranthene	20u
92-87-5	Benzidine	20u
129-00-0	Pyrene	20u
85-68-7	Butylbenzylphthalate	20u
91-94-1	3, 3'-Dichlorobenzidine	20u
56-55-3	Benz(a)Anthracene	20u
117-81-7	bis(2-Ethylhexyl)Phthalate	20u
218-01-9	Chrysene	20u
117-84-0	Di-n-Octyl Phthalate	20u
205-99-2	Benz(b)Fluoranthene	20u
207-08-9	Benz(k)Fluoranthene	20u
50-32-8	Benz(a)Pyrene	20u
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20u
53-70-3	Dibenz(a,h)Anthracene	20u
191-24-2	Benz(g,h,i)Perylene	20u

(1) Cannot be separated from diphenylamine

Laboratory No. 5507
Case No. 5507

BF584

Organics Analysis Data Sheet (Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2/10/86

Date Analyzed: 3/26/86

Conc/Dil Factor: 1

CAS
Number

ug/L or ug/Kg
(Circle One)

319-84-6	Alpha-BHC	0.017
319-85-7	Beta-BHC	0.017
319-86-8	Gamma-BHC	0.063
58-89-9	Gamma-BHC (Lindane)	0.017
75-44-8	Heptachlor	0.035
309-00-2	Alerin	0.035
1024-57-3	Heptachlor Epoxide	0.23
959-98-8	Endosulfan I	0.063
60-57-1	Dieldrin	0.090
72-55-9	4,4'-DDE	0.070
72-20-8	Endrin	0.12
33213-65-9	Endosulfan II	0.070
72-54-8	4,4'-DDD	0.017
7421-93-4	Endrin Alderhyde	0.20
1031-07-8	Endosulfan Sulfate	0.43
50-29-3	4,4'-DDT	0.035
72-43-5	Methoxychlor	0.53
53494-70-5	Endrin Ketone	0.70
57-74-9	Chlordane	0.20
8001-35-2	Toxaphene	2.0
12674-11-2	Aroclor-1036	1.1
11104-28-2	Aroclor-1221	0.97
11141-16-5	Aroclor-1232	0.10
53469-21-9	Aroclor-1242	0.73
12672-29-6	Aroclor-1248	0.53
11097-69-1	Aroclor-1254	0.27
11096-82-5	Aroclor-1260	0.29

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000

or W_s

V_i 10000

V_t 3

Organics Analysis Data Sheet (Page 1)

BF 585

Laboratory Name: ETC Corp.
 Sample ID No: L 1492 V
 Sample Matrix: WATER
 Release Authorized By: P.F. Smith

Case No: 5507
 QC Report No: OV4372
 Contract No: 68-01-6766, 6788, 6789, 6790
 Date Sample Received: 2/6/86

Volatile Compounds

Concentration: Low Medium (Circle One)
 Date Extracted/Prepared: 2886
 Date Analyzed: 2886
 Conc/Dil Factor: 1 pH
 Percent Moisture (Not Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	4.0U
74-83-9	Bromomethane	4.0U
75-01-4	Vinyl Chloride	4.0U
75-00-3	Chloroethane	4.0U
75-09-2	Methylene Chloride	115
67-64-1	Acetone	26B
75-15-0	Carbon Disulfide	4.0U
75-35-4	1, 1-Dichloroethene	4.0U
75-34-3	1, 1-Dichloroethane	4.0U
156-60-5	Trans-1, 2-Dichloroethene	4.0U
67-66-3	Chloroform	4.0U
107-06-2	1, 2-Dichloroethane	4.0U
79-93-3	2-Butanone	4.0U
71-55-6	1, 1, 1-Trichloroethane	4.0U
56-23-5	Carbon Tetrachloride	4.0U
108-05-4	Vinyl Acetate	4.0U
75-27-4	Bromodichloromethane	4.0U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	4.0U
10061-02-6	Trans-1, 3-Dichloropropane	4.0U
79-01-6	Trichloroethene	4.0U
124-48-1	Dibromochloromethane	4.0U
79-00-5	1, 1, 2-Trichloroethane	4.0U
71-43-2	Benzene	4.0U
10061-01-5	cis-1, 3-Dichloropropane	4.0U
110-75-8	2-Chloroethylvinylether	4.0U
75-25-2	Bromoform	4.0U
108-10-1	4-Methyl-2-Pentanone	5.7
591-78-8	2-Hexanone	4.0U
127-18-4	Tetrachloroethene	4.0U
79-34-5	1, 1, 2, 2-Tetrachloroethane	3.3T
108-88-3	Toluene	1.5T
108-90-7	Chlorobenzene	4.0U
100-41-4	Ethylbenzene	4.0U
100-42-5	Styrene	4.0U
	Total Xylenes	2.7T

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

A If the result is a value greater than or equal to the detection limit, report the value

B Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read U. Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

C Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/l in the final extract should be confirmed by GC/MS.

D This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name: Case No: 5307

Sample Number

BF585Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/10/86Date Analyzed: 2/11/86Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	20 u
108-95-2	Phenol	40 u
62-53-3	Aniline	20 u
111-44-4	bis(2-Chloroethyl)Ether	20 u
95-57-8	2-Chlorophenol	40 u
541-73-1	1,3-Dichlorobenzene	20 u
106-46-7	1,4-Dichlorobenzene	20 u
100-51-6	Benzyl Alcohol	20 u
95-50-1	1,2-Dichlorobenzene	20 u
95-48-7	2-Methylphenol	40 u
39638-32-9	bis(2-chloroisopropyl)Ether	20 u
106-44-5	4-Methylphenol	40 u
621-64-7	N-Nitroso-Di-n-Propylamine	20 u
67-72-1	Hexachloroethane	20 u
98-95-3	Nitrobenzene	20 u
78-59-1	Isophorone	20 u
88-75-5	2-Nitrophenol	40 u
105-67-9	2,4-Dimethylphenol	40 u
65-85-0	Benzoic Acid	40 u
111-91-1	bis(2-Chloroethoxy)Methane	20 u
120-83-2	2,4-Dichlorophenol	40 u
120-82-1	1,2,4-Trichlorobenzene	20 u
91-20-3	Naphthalene	20 u
106-47-8	4-Chloroaniline	20 u
87-68-3	Hexachlorobutadiene	20 u
59-50-7	4-Chloro-3-Methylphenol	40 u
91-57-8	2-Methylnaphthalene	20 u
77-47-4	Hexachlorocyclopentadiene	20 u
88-06-2	2,4,6-Trichlorophenol	40 u
95-95-4	2,4,5-Trichlorophenol	40 u
91-58-7	2-Chloronaphthalene	20 u
88-74-4	2-Nitroaniline	20 u
131-11-3	Dimethyl Phthalate	20 u
208-96-8	Acenaphthylene	20 u
99-09-2	3-Nitroaniline	20 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20 u
51-28-5	2,4-Dinitrophenol	40 u
100-02-7	4-Nitrophenol	40 u
132-64-9	Dibenzofuran	20 u
121-14-2	2,4-Dinitrotoluene	20 u
606-20-2	2,6-Dinitrotoluene	20 u
84-66-2	Diethylphthalate	20 u
7005-72-3	4-Chlorophenyl-phenylether	20 u
86-73-7	Fluorene	20 u
100-01-6	4-Nitroaniline	20 u
534-52-1	4,6-Dinitro-2-Methylphenol	40 u
86-30-6	N-Nitrosodiphenylamine (1)	20 u
101-55-3	4-Bromophenyl-phenylether	20 u
118-74-1	Hexachlorobenzene	20 u
87-86-5	Pentachlorophenol	40 u
85-01-8	Phenanthrene	20 u
120-12-7	Anthracene	20 u
84-74-2	Di-n-Butylphthalate	20 u
208-44-0	Fluoranthene	20 u
92-87-5	Benzidine	20 u
129-00-0	Pyrene	20 u
85-68-7	Butylbenzylphthalate	20 u
91-94-1	3,3'-Dichlorobenzidine	20 u
56-55-3	Benz(a)Anthracene	20 u
117-81-7	bis(2-Ethylhexyl)Phthalate	20 u
218-01-9	Chrysene	20 u
117-84-0	Di-n-Octyl Phthalate	20 u
205-99-2	Benz(b)Fluoranthene	20 u
207-08-9	Benz(k)Fluoranthene	20 u
50-32-8	Benz(a)Pyrene	20 u
193-39-5	Indeno(1,2,3-cd)Pyrene	20 u
53-70-3	Dibenz(a,h)Anthracene	20 u
191-24-2	Benz(a,h,i)Perylene	20 u

(1)-Cannot be separated from diphenylamine

Case No: 5507

BF585

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/10/86Date Analyzed: 3/26/86Conc/Dil Factor: 1CAS
Numberug/l or ug/Kg
(Circle One)

319-84-6	Alpha-BHC	0.017
319-85-7	Beta-BHC	0.017
319-86-8	Delta-BHC	0.017
58-89-9	Gamma-BHC (Lindane)	0.017
76-44-8	Heptachlor	0.035
309-00-2	Aldrin	0.035
1024-57-3	Heptachlor Epoxide	0.23
959-98-8	Endosulfan I	0.063
60-57-1	Dieldrin	0.090
72-55-9	4,4'-DDE	0.070
72-20-8	Endrin	0.12
33213-65-9	Endosulfan II	0.070
72-54-8	4,4'-DDD	0.017
7421-93-4	Endrin Alderhyde	0.20
1031-07-8	Endosulfan Sulfate	0.43
50-29-3	4,4'-DDT	0.035
72-43-5	Methoxychlor	0.53
53494-70-5	Endrin Ketone	0.70
57-74-9	Chlordane	0.20
8001-35-2	Toxaphene	2.0
12674-11-2	Aroclor-1018	1.1
11104-28-2	Aroclor-1221	0.87
11141-16-5	Aroclor-1232	0.10
53469-21-9	Aroclor-1242	0.73
12672-29-6	Aroclor-1248	0.53
11097-69-1	Aroclor-1254	0.27
11096-82-5	Aroclor-1260	0.29

 V_i = Volume of extract injected (ul) V_s = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_s 1000 or W_s _____ V_i 10000 V_t 3

Organics Analysis Data Sheet (Page 1)

Sample Number

BF 589

Laboratory Name: ETC Corp.
Job Sample ID No: 11483
Sample Matrix: WATER
Data Release Authorized By: C. Dwyer

Case No: 5507
QC Report No: OV4372
Contract No: 68-01-6766, 6788, 6789, 67
Date Sample Received: 2/10/86

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 2-8-86
Date Analyzed: 2-8-86
Conc/Dil Factor: 1 pH
Percent Moisture: (Not Decanted)

CAS
Number

CAS Number	Compound	ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	4.0u
74-83-9	Bromomethane	4.0u
75-01-4	Vinyl Chloride	4.0u
75-00-3	Chloroethane	4.0u
75-09-2	Methylene Chloride	38
67-64-1	Acetone	20883
75-15-0	Carbon Disulfide	4.0u
75-35-4	1, 1-Dichloroethane	2.4J
75-34-3	1, 1-Dichloroethane	4.0u
75-80-5	Trans-1, 2-Dichloroethane	4.0u
67-66-3	Chloroform	4.0u
707-06-2	1, 2-Dichloroethane	4.0u
78-93-3	2-Butanone	3872
71-55-6	1, 1, 1-Trichloroethane	3.6J
56-23-5	Carbon Tetrachloride	4.0u
138-05-4	Vinyl Acetate	4.0u
73-27-4	Bromodichloromethane	4.0u

CAS

Number

CAS Number	Compound	ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	4.0u
10061-02-8	Trans-1, 3-Dichloropropane	4.0u
79-01-6	Trichloroethane	4.0u
124-48-1	Dibromochloromethane	4.0u
79-00-5	1, 1, 2-Trichloroethane	4.0u
71-43-2	Benzene	4.0u
10061-01-5	cis-1, 3-Dichloropropane	4.0u
110-75-8	2-Chloroethylvinylether	4.0u
75-25-2	Bromoform	2.4J
108-10-1	4-Methyl-2-Pentanone	100
591-78-6	2-Hexanone	6.3
127-18-4	Tetrachloroethane	4.0u
79-34-5	1, 1, 2, 2-Tetrachloroethane	5.9
108-88-3	Toluene	46
108-90-7	Chlorobenzene	4.0u
100-41-4	Ethylbenzene	6.1
100-42-5	Styrene	4.0u
	Total Xylenes	32

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- A** If the result is a value greater than or equal to the detection limit, report the value.
- B** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/l or in the final extract should be confirmed by GC/MS.
- D** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.
- E** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

Organics Analysis Data Sheet (Page 2)

Sample Number

BF589

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/10/96Date Analyzed: 2/12/96Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	20u
108-95-2	Phenol	40u
62-53-3	Aniline	20u
111-44-4	bis(2-Chloroethyl)Ether	20u
95-57-8	2-Chlorophenol	40u
541-73-1	1,3-Dichlorobenzene	20u
106-46-7	1,4-Dichlorobenzene	20u
100-51-6	Benzyl Alcohol	20u
95-50-1	1,2-Dichlorobenzene	20u
95-48-7	2-Methylphenol	40u
39638-32-9	bis(2-chloroisopropyl)Ether	20u
106-44-5	4-Methylphenol	40u
621-64-7	N-Nitroso-Di-n-Propylamine	20u
67-72-1	Hexachloroethane	20u
98-95-3	Nitrobenzene	20u
78-59-1	Isophorone	20u
88-75-6	2-Nitrophenol	40u
105-67-9	2,4-Dimethylphenol	40u
65-85-0	Benzoic Acid	40u
111-91-1	bis(2-Chloroethoxy)Methane	20u
120-83-2	2,4-Dichlorophenol	40u
120-82-1	1,2,4-Trichlorobenzene	20u
91-20-3	Naphthalene	20u
108-47-8	4-Chloroaniline	20u
87-68-3	Hexachlorobutadiene	20u
59-50-7	4-Chloro-3-Methylphenol	40u
91-57-6	2-Methylnaphthalene	20u
77-47-4	Hexachlorocyclopentadiene	20u
88-06-2	2,4,6-Trichlorophenol	40u
95-95-4	2,4,5-Trichlorophenol	40u
91-58-7	2-Chloronaphthalene	20u
88-74-4	2-Nitroaniline	20u
131-11-3	Dimethyl Phthalate	20u
208-96-8	Acenaphthylene	20u
99-09-2	3-Nitroaniline	20u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20u
51-28-5	2,4-Dinitrophenol	40u
100-02-7	4-Nitrophenol	40u
132-64-9	Dibenzofuran	20u
121-14-2	2,4-Dinitrotoluene	20u
606-20-2	2,6-Dinitrotoluene	20u
84-66-2	Diethylphthalate	20u
7005-72-3	4-Chlorophenyl-phenylether	20u
86-73-7	Fluorene	20u
100-01-6	4-Nitroaniline	20u
534-52-1	4,6-Dinitro-2-Methylphenol	20u
86-30-6	N-Nitrosodiphenylamine (1)	20u
101-55-3	4-Bromophenyl-phenylether	20u
118-74-1	Hexachlorobenzene	20u
87-86-5	Pentachlorophenol	40u
85-01-8	Phenanthrene	20u
120-12-7	Anthracene	20u
84-74-2	Di-n-Butylphthalate	20u
206-44-0	Fluorethane	20u
92-87-5	Benzidine	20u
129-00-0	Pyrene	20u
85-68-7	Butylbenzylphthalate	20u
91-94-1	3,3'-Dichlorobenzidine	20u
56-55-3	Benzofuran	20u
117-81-7	bis(2-Ethylhexyl)Phthalate	20u
218-01-9	Chrysene	20u
117-84-0	Di-n-Octyl Phthalate	20u
205-99-2	Benzofluorene	20u
207-08-9	Benzofluorene	20u
50-32-8	Benzofluorene	20u
193-39-5	Indeno(1,2,3-cd)Pyrene	20u
53-70-3	Dibenz(a,h)Anthracene	20u
191-24-2	Benzofluorene	20u

(1)-Cannot be separated from diphenylamine

Laboratory Case No: 5507

Sample Number
BF589

Organics Analysis Data Sheet (Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2/10/86

Date Analyzed: 3/26/86

Conc/Dil Factor: 1

CAS Number ug/l or ug/Kg
(Circle One)

319-84-6	Alpha-BHC	0.020
319-85-7	Beta-BHC	0.020
319-86-8	Delta-BHC	0.020
58-89-9	Gamma-BHC (Lindane)	0.020
76-44-8	Heptachlor	0.040
309-00-2	Aldrin	0.040
1024-57-3	Heptachlor Epoxide	0.25
959-98-8	Endosulfan I	0.073
60-57-1	Dieldrin	0.10
72-55-9	4,4'-DDE	0.080
72-20-8	Endrin	0.14
33213-65-9	Endosulfan II	0.020
72-54-8	4,4'-DDD	0.020
7421-93-4	Endrin Aldehyde	0.23
1031-07-8	Endosulfan Sulfate	0.49
50-29-3	4,4'-DDT	0.040
72-43-5	Methoxychlor	0.61
53494-70-5	Endrin Ketone	0.80
57-74-9	Chlordane	0.23
8001-35-2	Toxaphene	2.3
12674-11-2	Aroclor-1016	1.2
11104-28-2	Aroclor-1221	1.0
11141-18-5	Aroclor-1232	0.11
53469-21-9	Aroclor-1242	0.84
12672-29-6	Aroclor-1248	0.61
11097-69-1	Aroclor-1254	0.31
11096-82-5	Aroclor-1260	0.33

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 870 or W_s _____ V_i 10,000 V_t 3

Organics Analysis Data Sheet (Page 1)

Sample Number

BF594

Laboratory Name: ETC Corp.

Job Sample ID No: L 1494V

Sample Matrix: WATERS

Data Release Authorized By: C. Dwyer

Case No: 5507

QC Report No:

Contract No: 68-01-6766, 6788, 6789, 6790

Date Sample Received: 2/6/86

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 2-8-86

Date Analyzed: 2-8-86

Conc/Dil Factor: 1 pH

Percent Moisture: (Not Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	4.0U
74-83-9	Bromomethane	4.0U
75-01-4	Vinyl Chloride	4.0U
75-00-3	Chloroethane	4.0U
75-09-2	Methylene Chloride	4.0U
77-84-1	Acetone	66B
75-15-0	Carbon Disulfide	4.0U
75-35-4	1, 1-Dichloroethene	4.0U
75-34-3	1, 1-Dichloroethane	4.0U
78-60-5	Trans-1, 2-Dichloroethene	4.0U
77-66-3	Chloroform	4.0U
77-06-2	1, 2-Dichloroethane	4.0U
78-93-3	2-Butanone	2.5 220
75-55-6	1, 1, 1-Trichloroethane	4.0U
76-23-5	Carbon Tetrachloride	4.0U
76-05-4	Vinyl Acetate	4.0U
75-27-4	Bromodichloromethane	4.0U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	4.0U
10061-02-6	Trans-1, 3-Dichloropropane	4.0U
79-01-6	Trichloroethene	4.0U
124-48-1	Dibromochloromethane	4.0U
79-00-5	1, 1, 2-Trichloroethane	4.0U
71-43-2	Benzene	4.0U
10061-01-5	cis-1, 3-Dichloropropane	4.0U
110-75-8	2-Chloroethylvinylether	4.0U
75-25-2	Bromoform	4.0U
108-10-1	4-Methyl-2-Pentanone	3.7J
591-78-6	2-Hexanone	4.0U
127-18-4	Tetrachloroethene	4.0U
79-34-5	1, 1, 2, 2-Tetrachloroethane	4.0U
108-88-3	Toluene	4.0U
108-90-7	Chlorobenzene	4.0U
100-41-4	Ethylbenzene	4.0U
100-42-5	Styrene	4.0U
	Total Xylenes	4.0U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

A If the result is a value greater than or equal to the detection limit, report the value.

B Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnotes should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

C Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/l in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name: ETC Corp.Case No: 5307

Sample Number

BF 59 UOrganics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/10/86Date Analyzed: 2/12/86Conc/Dil Factor: 1

CAS Number		ug/l or ug/Kg (Circle One)
62-75-9	N-Nitrosodimethylamine	20U
108-95-2	Phenol	8.7 J 40U
62-53-3	Aniline	20U
111-44-4	bis(2-Chloroethyl)Ether	20U
95-57-8	2-Chlorophenol	40U
541-73-1	1, 3-Dichlorobenzene	20U
106-46-7	1, 4-Dichlorobenzene	20U
100-51-6	Benzyl Alcohol	20U
95-50-1	1, 2-Dichlorobenzene	20U
95-48-7	2-Methylphenol	40U
39638-32-9	bis(2-chloroisopropyl)Ether	20U
106-44-5	4-Methylphenol	20 J 40U
621-64-7	N-Nitroso-Di-n-Propylamine	20U
57-72-1	Hexachloroethane	20U
98-95-3	Nitrobenzene	20U
78-59-1	Isophorone	340 20U
89-75-5	2-Nitrophenol	40U
105-67-9	2, 4-Dimethylphenol	40U
55-85-0	Benzoic Acid	35 J 40U
111-91-1	bis(2-Chloroethoxy)Methane	20U
120-83-2	2, 4-Dichlorophenol	40U
120-82-1	1, 2, 4-Trichlorobenzene	20U
91-20-3	Naphthalene	20U
106-47-8	4-Chloroaniline	20U
87-68-3	Hexachlorobutadiene	20U
59-50-7	4-Chloro-3-Methylphenol	40U
91-57-6	2-Methylnaphthalene	17 J 20U
77-47-4	Hexachlorocyclopentadiene	20U
88-06-2	2, 4, 6-Trichlorophenol	40U
95-95-4	2, 4, 5-Trichlorophenol	40U
91-58-7	2-Chloronaphthalene	20U
88-74-4	2-Nitroaniline	20U
131-11-3	Dimethyl Phthalate	20U
208-96-8	Acenaphthylene	20U
99-09-2	3-Nitroaniline	20U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	20U
51-28-5	2, 4-Dinitrophenol	40U
100-02-7	4-Nitrophenol	40U
132-64-9	Dibenzofuran	20U
121-14-2	2, 4-Dinitrotoluene	20U
606-20-2	2, 6-Dinitrotoluene	20U
84-66-2	Diethylphthalate	20U
7005-72-3	4-Chlorophenyl-phenylether	20U
86-73-7	Fluorene	3.5 J 20U
100-01-6	4-Nitroaniline	20U
534-52-1	4, 6-Dinitro-2-Methylphenol	40U
86-30-6	N-Nitrosodiphenylamine (1)	20U
101-55-3	4-Bromophenyl-phenylether	20U
118-74-1	Hexachlorobenzene	20U
87-86-5	Pentachlorophenol	40U
85-01-8	Phenanthrene	20U
120-12-7	Anthracene	20U
84-74-2	Di-n-Butylphthalate	20U
206-44-0	Fluoranthene	20U
92-87-6	Benzidine	20U
129-00-0	Pyrene	20U
85-68-7	Butylbenzylphthalate	20U
91-94-1	3, 3'-Dichlorobenzidine	20U
56-55-3	Benz(a)Anthracene	20U
117-81-7	bis(2-Ethylhexyl)Phthalate	55 20U
218-01-9	Chrysene	20U
117-84-0	Di-n-Octyl Phthalate	20U
205-99-2	Benz(b)Fluoranthene	20U
207-08-9	Benz(k)Fluoranthene	20U
50-32-8	Benz(a)Pyrene	20U
193-39-5	Indeno(1, 2, 3-cd)Pyrene	20U
53-70-3	Dibenz(a, h)Anthracene	20U
191-24-2	Benz(a, g, h, i)Perylene	20U

(1) Cannot be separated from diphenylamine

Case No:

5507

Sample number

BF594

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)Date Extracted/Prepared: 2/10/86Date Analyzed: 3/11/86 4/11/86 RPConc/Dil Factor: 1

CAS Number		<u>ug</u> /g or <u>ug</u> /Kg (Circle One)
319-84-6	Alpha-BHC	0.07 μ m
319-85-7	Beta-BHC	0.03 μ m
319-86-8	Delta-BHC	0.06 μ m
58-89-9	Gemma-BHC (Lindane)	0.03 μ m
76-44-8	Heptachlor	0.03 μ m
309-00-2	Aldrin	0.03 μ m
1024-57-3	Heptachlor Epoxide	0.23 μ m
959-98-8	Endosulfan I	0.06 μ m
60-57-1	Dieldrin	0.09 μ m
72-55-9	4,4'-DDE	0.03 μ m
72-20-8	Endrin	0.03 μ m
33213-65-9	Endosulfan II	0.03 μ m
72-54-8	4,4'-DDD	0.03 μ m
7421-93-4	Endrin Aldehyde	0.03 μ m
1031-07-8	Endosulfan Sulfate	0.43 μ m
50-29-3	4,4'-DDT	0.03 μ m
72-43-5	Methoxychlor	0.53 μ m
53494-70-5	Endrin Ketone	0.30 μ m
57-74-9	Chlordane	0.25 μ m
8001-35-2	Toxaphene	2.0 μ m
12674-11-2	Aroclor-1016	1.40 μ m
11104-28-2	Aroclor-1221	0.33 μ m
11141-16-5	Aroclor-1232	0.10 μ m
53469-21-9	Aroclor-1242	0.23 μ m
12672-29-6	Aroclor-1248	0.53 μ m
11097-69-1	Aroclor-1254	0.27 μ m
11096-82-5	Aroclor-1260	0.29 μ m

 V_i = Volume of extract injected (ul) V_e = Volume of water extracted (ml) W_s = Weight of sample extracted (g) V_t = Volume of total extract (ul) V_e 1000or W_s V_i 0.000 V_t 3

TABLE 1
Sample Descriptions
Central Steel Drum
Newark, New Jersey
CASE #5507

<u>Sample ID Number</u>	<u>Organic Traffic Report #</u>	<u>Inorganic Traffic Report #</u>	<u>Date</u>	<u>Time (Hours)</u>	<u>Sample Type</u>	<u>Sample Location</u>
S1	BF590	MBF433	2/05/86	1108	Soil	Adjacent to conveyer belt in drain staging area.
S2	BF591	MBF434	2/05/86	1126	Soil	Fifty feet from incinerator adjacent to conveyor belt.
S3	BF592	MBF435	2/05/86	1135	Soil	Adjacent to manifest waste storage on south side of incinerator.
S4	BF593	MBF436	2/05/86	1555	Soil	Adjacent to drainage ditch at southeast corner of property.
GW1	BF583	MBF426	2/05/86	1235	Aqueous	Shallow well #102 by entrance.
GW2	BF584	MBF427	02/35/86	1400	Aqueous	Deep well #202 by entrance.
GW3	BF585	MBF428	2/05/86	1545	Aqueous	Deep well #204 at southeast corner of property.
SW1	BF589	MBF432	2/05/86	1500	Aqueous	Surface water from drainage ditch at southeast corner of property.
Blank-1	BF594	MBF437	2/05/86	N/A	Sample Blank	U.S. EPA Lab Edison, NJ.

INORGANIC DATA QUALIFIER

Footnotes:

NR - not required by contract at this time.

Form is:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP/Flame AA) or F (for furnace).

U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

s - Indicates value determined by Method of Standard Addition.

R - Indicates spike sample recovery is not within control limits.

• - Indicates duplicate analysis is not within control limits.

♦ - Indicates the correlation coefficient for method of standard addition is less than 0.995

Form 1 A

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 818 - Alexandria, VA 22313
 703/557-2490 FTS: 8-557-2490

GW-1
 EPR Sample No.
MBF 426

Date 3/3/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts.CASE NO. 5507SOW NO. 784LAB SAMPLE ID. NO. 72-3256QC REPORT NO. 256

Elements Identified and Measured

Concentration:

Low ☒Medium ☐Matrix: Water ☒Soil ☐Sludge ☐Other ☐ug/L or mg/kg dry weight (Circle One)

1. Aluminum	18040	P	13. Magnesium	58100	P
2. Antimony	594R	P	14. Manganese	3130	P
3. Arsenic	50R	P	15. Mercury	36	Cold.V.
4. Barium	4210	P	16. Nickel	293	P
5. Beryllium	4.04	P	17. Potassium	32200	A
6. Cadmium	96	P	18. Selenium	2502	F
7. Calcium	234000	P	19. Silver	9.34	P
8. Chromium	877	P	20. Sodium	203000	P
9. Cobalt	69R	P	21. Thallium	6.54R	F
10. Copper	12600R	P	22. Tin	2430	ER P
11. Iron	336000	P	23. Vanadium	101	P
12. Lead	32100	P	24. Zinc	15200	P
Cyanide	NR	Auto An	Percent Solids (Z)	NR	

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager / EA

Form 1 B

GWZ

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MBF 427Date 3/3/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts.CASE NO. 5507SOW NO. 784LAB SAMPLE ID. NO. 72-3257QC REPORT NO. 257

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
Matrix: Water ☒ Soil ☐ Sludge ☐ Other ☐

ug/L or ug/kg dry weight (Circle One)

1. Aluminum	132000	P	13. Magnesium	777000	P
2. Antimony	500R	P	14. Manganese	32000	P
3. Arsenic	500R	F	15. Mercury	0.44	Cold.V.
4. Barium	2290	P	16. Nickel	343	P
5. Beryllium	8	P	17. Potassium	204000	A
6. Cadmium	26 E	P	18. Selenium	250R	F
7. Calcium	1478000	P	19. Silver	9.3u	P
8. Chromium	237 E	P	20. Sodium	4880000	P
9. Cobalt	192 R	P	21. Thallium	6.50R	F
10. Copper	501 R	P	22. Tin	370 ER	P
11. Iron	294000	P	23. Vanadium	361	P
12. Lead	474	P	24. Zinc	1010	P
13. Manganese	NR	Auto An	Percent Solids (Z)	NR	

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager EA

GW3

Form 1 C

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 818 - Alexandria, VA 22313
 703/557-2490 FTS: 8-557-2490

EPA Sample No.

MBF 428

Date 3/4/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts.

CASE NO. 5507

SOW NO. 784

LAB SAMPLE ID. NO. 72-3258

QC REPORT NO. 252

Elements Identified and Measured

Concentration:

Low

✓

Medium

Matrix: Water

✓

Soil

Sludge

Other

(ug/L) or ng/kg dry weight (Circle One)

Aluminum	41700 *	P	13. Magnesium	754000	P
Antimony	594 R	P	14. Manganese	1240	P
Arsenic	504 R	F	15. Mercury	0.25	Cold.V.
Barium	572	P	16. Nickel	61	P
Beryllium	4.04	P	17. Potassium	184000	A
Cadmium	219 E	P	18. Selenium	254 R	F
Calcium	255000	P	19. Silver	9.34	P
Chromium	88 E	P	20. Sodium	5900000	P
Cobalt	50 R	P	21. Thallium	104 R	F
Copper	89 R	P	22. Tin	374 ER	P
Iron	107000	P	23. Vanadium	165	P
Lead	1014 *	F	24. Zinc	1880	P
anide	NR	Auto An	Percent Solids (Z)	NR	

Notes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager

EB

Form I D

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

SW-1

EPA Sample No.

MBF432Date 3/3/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts.CASE NO. 5507SOV NO. 784LAB SAMPLE ID. NO. 72-3259QC REPORT NO. 256

Elements Identified and Measured

Concentration:

Low ☒Medium ☐matrix: Water ☒Soil ☐Sludge ☐Other ☐

(ug/L) or ug/kg dry weight (Circle One)

Aluminum	3780 +	P	13. Magnesium	19800	P
Antimony	54uR	P	14. Manganese	540	P
Arsenic	50uR	F	15. Mercury	2.6	Cold.V.
Barium	1190	P	16. Nickel	84	P
Beryllium	4.0u	P	17. Potassium	7360	A
Cadmium	24 E	P	18. Selenium	5.0uR	F
Calcium	68900	P	19. Silver	15	P
Chromium	233 E	P	20. Sodium	63400	P
Cobalt	41 R	P	21. Thallium	6.5uR	F
Copper	635 R	P	22. Tin	96 ER	P
Iron	21200	P	23. Vanadium	23u	P
Lead	2460 +	P	24. Zinc	1490	P
anide	NR	Auto An	Percent Solids (Z)	NR	

Notes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager E.D.

Form 1 E

S1

J.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 818 - Alexandria, VA 22313
 103/557-2490 FTS: 8-557-2490

EPA Sample No.

MBF 433

Date 3/4/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts.

CASE NO. 5507

SOV NO. 784

LAB SAMPLE ID. NO. 72-3260

QC REPORT NO. 25C

Elements Identified and Measured

Concentration:

Low ☒Medium ☐Matrix: Water ☐Soil ☒Sludge ☐Other ☐ug/L or ug/kg dry weight (Circle One)

1. Aluminum	7260	P	13. Magnesium	4420	P
2. Antimony	45UR	P	14. Manganese	716	P
3. Arsenic	11	F	15. Mercury	4.7	Cold.V.
4. Barium	3310	P	16. Nickel	110	P
5. Beryllium	3.0U	P	17. Potassium	1340U	A
6. Cadmium	115R	P	18. Selenium	19UR	F
7. Calcium	19900 *	P	19. Silver	7.1UR K	P
8. Chromium	1110	P	20. Sodium	3810	P
9. Cobalt	53	P	21. Thallium	5.0U	F
10. Copper	916	P	22. Tin	229 *	P
11. Iron	120000	P	23. Vanadium	29	P
12. Lead	7070	P	24. Zinc	3400	P
Residue	NR	Auto An	Percent Solids (Z)	65.40	

Notes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager

SJR

Form I F

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

S2

EPA Sample No.
MBF 434

Date 3/4/86

INORGANIC ANALYSIS DATA SHEET

LAB NAME JTC Environmental Cnslts.

CASE NO. 5507

SOW NO. 784

LAB SAMPLE ID. NO. 72-3261

QC REPORT NO. 257

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
Matrix: Water ☐ Soil ☒ Sludge ☐ Other ☐

ug/L or mg/kg dry weight (Circle One)

Aluminum	<u>7070 #</u>	P	13. Magnesium	<u>[2830]</u>	P
Antimony	<u>464 R</u>	P	14. Manganese	<u>2130</u>	P
Arsenic	<u>39 U</u>	F	15. Mercury	<u>1.2</u>	Cold.V.
Barium	<u>6470</u>	P	16. Nickel	<u>122</u>	P
Beryllium	<u>3.1 U</u>	P	17. Potassium	<u>1370 U</u>	A
Cadmium	<u>97 R</u>	P	18. Selenium	<u>3.9 U R</u>	F
Calcium	<u>18200 *</u>	P	19. Silver	<u>7.3 U R *</u>	P
Chromium	<u>1360</u>	P	20. Sodium	<u>3910 U</u>	P
Cobalt	<u>129</u>	P	21. Thallium	<u>5.1 U</u>	F
Copper	<u>1250</u>	P	22. Tin	<u>1780 *</u>	P
Iron	<u>409080</u>	P	23. Vanadium	<u>[20]</u>	P
Lead	<u>10400</u>	P	24. Zinc	<u>4180</u>	P
side <u>NR</u>	Auto An		Percent Solids (Z)	<u>63.65</u>	

Notes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: _____

Lab Manager ES

Form 1 H

S4

U.S. EPA Contract Laboratory Program
 Sample Management Office
 P.O. Box 818 - Alexandria, VA 22313
 703/557-2490 FTS: 8-557-2490

EPA Sample No.

MBF436

Date 3/4/86

INORGANIC ANALYSIS DATA SHEET

AS NAME JTC Environmental Cnslts.

CASE NO. 5507

OW NO. 784

LAB SAMPLE ID. NO. 72-3263

QC REPORT NO. 252

Elements Identified and Measured

Concentration:

Low ☒Medium ☐Matrix: Water ☐Soil ☒Sludge ☐Other ☐

ug/L or (mg/kg) dry weight (Circle One)

Aluminum	9770	P	13. Magnesium	4420	P
Antimony	45UR	P	14. Manganese	382	P
Arsenic	9.3	F	15. Mercury	2.21	Cold.V.
Barium	554	D	16. Nickel	54	P
Beryllium	3.14	D	17. Potassium	13604	A
Cadmium	11R	P	18. Selenium	3.94R	F
Calcium	4710 *	P	19. Silver	7.24R *	D
Chromium	159	P	20. Sodium	38704	P
Cobalt	28	P	21. Thallium	6.51 5.04	F
Copper	295	P	22. Tin	112 *	P
Iron	53900	P	23. Vanadium	23	P
Lead	1030	P	24. Zinc	678	P
Mercury	NR	Auto An	Percent Solids (Z)	64.35	

Notes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager 

Form I

Blank

EPA Contract Laboratory Program
EPA Management Office
Box 818 - Alexandria, VA 22313
7557-2490 FTS: 8-557-2490

EPA Sample No.
MBF437

Date **3/4/86**

INORGANIC ANALYSIS DATA SHEET

NAME **JTC Environmental Cnslts.**

CASE NO. **5507**

NO. **784**

SAMPLE ID. NO. **72-3264**

QC REPORT NO. **256**

Elements Identified and Measured

Concentration: Low ☒ Medium ☐
Matrix: Water ☐ Soil ☒ Sludge ☐ Other ☐
field blank
mb 5/4/86

ug/L or mg/kg dry weight (Circle One)

Aluminum	170u	P	13. Magnesium	920u	P
Antimony	59uR	P	14. Manganese	12u	P
Arsenic	6.5uR	F	15. Mercury	0.20u	Cold.V.
Barium	29u	P	16. Nickel	40u	P
Beryllium	4.0u	P	17. Potassium	1750u	A
Cadmium	5.0uE	P	18. Selenium	5.0uR	F
Calcium	1260u	P	19. Silver	9.3u	P
Chromium	9.4uE	P	20. Sodium	4980u	P
Cobalt	18uR	P	21. Thallium	6.5uR	F
Copper	21uR	P	22. Tin	37uER	P
Iron	88u	P	23. Vanadium	23u	P
Lead	5.0u*	F	24. Zinc	38	P
Mercury	NR	Auto An	Percent Solids (Z)	NR	

Notes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager *ES*

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
8812451	09/06/88	13:30	MN	SOIL - CSD-COMP-1, COMPOSITE FROM STOCK PILED SOILS CENTRAL STEEL DRUM

SP TOXICITY PARAMETER	RESULT	EPA#	MCL	MDL	UNITS	DATE	INITIALS
ARSENIC, EPTOX LEACHATE	0.006	D004	5.0	0.001	MG/L	09/15/88	MS
BARIUM, EPTOX LEACHATE	1.7	D005	100	0.10	MG/L	09/15/88	GG
CADMIUM, EPTOX LEACHATE	0.30	D006	1.0	0.005	MG/L	09/15/88	GG
CHROMIUM, EPTOX LEACHATE	<0.025	D007	5.0	0.025	MG/L	09/15/88	GG
LEAD, EPTOX LEACHATE	2.2	D008	5.0	0.001	MG/L	09/15/88	MS
MERCURY, EPTOX LEACHATE	<0.001	D009	0.20	0.001	MG/L	09/15/88	RM
NICKEL, EPTOX LEACHATE	0.071			0.040	MG/L	09/15/88	GG
SELENIUM, EPTOX LEACHATE	0.002	D010	1.0	0.001	MG/L	09/15/88	MS

UG/L = PPM MG/L = PPM
MCL = MAXIMUM CONTAMINATION LEVEL
MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

**ACCUTEST®**

2225 ROUTE 130, BLDG. 8 • DAYTON, N.J. 08810 • (701) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
E812451	09/06/88	13.30	MN	SOIL - CSD-COMP-1, COMPOSITE FROM STOCK PILED SOILS CENTRAL STEEL DRUM

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
CORROSIVITY	NC			09/19/88	CG
CYANIDE REACTIVITY	<1.5	1.5	MG/KG	09/09/88	CA
IGNITABILITY (FLASHPOINT)	>150		DEG F	09/09/88	CA
PETROLEUM HYDROCARBONS	12000	50	MG/KG	09/09/88	HGM
PHENOLICS, TOTAL	50	2.5	MG/KG	09/13/88	KS
SOLIDS, TOTAL PERCENT	69	2.0	%	09/09/88	DMC
SULFIDE REACTIVITY	<20	20	MG/KG	09/09/88	CA
pH (FINAL)	5.1		SU	09/13/88	RM
pH (INITIAL)	5.1		SU	09/13/88	RM

MG/KG = PPM MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE PRESIDENT

**ACCUTEST®**

2775 ROUTE 130, BLDG 8 • DAYTON, N.J. 08810 • (201) 479 0200

ANALYSIS

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
E812451	09/06/88	13:30	NN	SOIL - CSD-COMP-1, COMPOSITE FROM STOCK PILED SOILS CENTRAL STEEL DRUM

TOXICITY PARAMETER	RESULT	EPA#	MCL	MDL	UNITS	DATE	INITIALS
ARSENIC, EPTOX LEACHATE	0.006	D004	5.0	0.001	MG/L	09/15/88	NS
BARIUM, EPTOX LEACHATE	1.7	D005	100	0.10	MG/L	09/15/88	GG
CADMIUM, EPTOX LEACHATE	0.30	D006	1.0	0.005	MG/L	09/15/88	GG
CHROMIUM, EPTOX LEACHATE	<0.025	D007	5.0	0.025	MG/L	09/15/88	GG
LEAD, EPTOX LEACHATE	2.2	D008	5.0	0.001	MG/L	09/15/88	NS
MERCURY, EPTOX LEACHATE	<0.001	D009	0.20	0.001	MG/L	09/15/88	RM
NICKEL, EPTOX LEACHATE	0.071			0.040	MG/L	09/15/88	GG
SELENIUM, EPTOX LEACHATE	0.002	D010	1.0	0.001	MG/L	09/15/88	NS

UG/L = PPM MG/L = PPM
MCL = MAXIMUM CONTAMINATION LEVEL
MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT



2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (701) 379-0700

ANALYSIS REPORT

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
E812451	09/06/88	13:30	MN	SOIL - CSD-COMP-1, COMPOSITE FROM STOCK PILED SOILS CENTRAL STEEL DRUM

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
CORROSIVITY	NC			09/19/88	JO
CYANIDE REACTIVITY	<1.5	1.5	MG/KG	09/09/88	CA
IGNITABILITY (FLASHPOINT)	>150		DEG F	09/09/88	CA
PETROLEUM HYDROCARBONS	12000	50	MG/KG	09/09/88	MHM
PHENOLICS, TOTAL	50	2.5	MG/KG	09/13/88	KS
SOLIDS, TOTAL PERCENT	69	2.0	%	09/09/88	DHC
SULFIDE REACTIVITY	<20	20	MG/KG	09/09/88	CA
PH (FINAL)	9.1		SU	09/13/88	RM
PH (INITIAL)	9.1		SU	09/13/88	RM

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

WDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
EB12451	09/06/88	13:30	MN	SOIL - CSD-COMP-1, COMPOSITE FROM STOCK PILED SOILS CENTRAL STEEL DRUM

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PCB'S					
AROCHLOR 1016	ND	1900	UG/KG	09/15/88	RH
AROCHLOR 1221	ND	1900	UG/KG	09/15/88	RH
AROCHLOR 1232	ND	1900	UG/KG	09/15/88	RH
AROCHLOR 1242	ND	1900	UG/KG	09/15/88	RH
AROCHLOR 1248	ND	1900	UG/KG	09/15/88	RH
AROCHLOR 1254	330000	1900	UG/KG	09/15/88	RH
AROCHLOR 1269	ND	1900	UG/KG	09/15/88	RH

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

NJDEP CERTIFICATION 12129

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ANALYSIS REPORT

SAMPLE NO	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
EB12452	09/06/88	14:00	MN	SOIL - CSD-B1, BACKGROUND SAMPLE, NW CORNER, 0-6" CENTRAL STEEL DRUM

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	82	2.0	%	09/09/88	DHC
ANTIMONY	27	0.10	MG/KG	09/14/88	MS
ARSENIC	6.4	0.10	MG/KG	09/14/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	09/14/88	GG
CADMIUM	57	0.50	MG/KG	09/14/88	GG
CHROMIUM	880	2.5	MG/KG	09/14/88	GG
COPPER	490	2.0	MG/KG	09/14/88	GG
LEAD	4300	10	MG/L	09/15/88	NH
NICKEL	75	4.0	MG/KG	09/14/88	GG
SELENIUM	1.5	0.10	MG/KG	09/14/88	MS
THALLIUM	<0.10	0.10	MG/KG	09/14/88	MS
ZINC	2700	5.0	MG/KG	09/14/88	GG

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

NJDEP CERTIFICATION 12129

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ANALYSTS REPORT

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
E812452	09/06/88	14:00	MN	SOIL - CSD-B1, BACKGROUND SAMPLE, NW CORNER, 0.6" CENTRAL STEEL DRUM

TEST DESCRIPTION	RESULT	NOL	UNITS	DATE	INIT
PCB'S					
AROCHLOR 1016	ND	790	UG/KG	09/14/88	PH
AROCHLOR 1221	ND	790	UG/KG	09/14/88	PH
AROCHLOR 1232	ND	790	UG/KG	09/14/88	PH
AROCHLOR 1242	ND	790	UG/KG	09/14/88	PH
AROCHLOR 1248	ND	790	UG/KG	09/14/88	PH
AROCHLOR 1254	50000	790	UG/KG	09/14/88	PH
AROCHLOR 1260	ND	790	UG/KG	09/14/88	PH

ND = NOT DETECTED

UG/KG = PPB MG/KG = PPM

NOL = METHOD DETECTION LIMIT

ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

RJDER CERTIFICATION 12129

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**ACCUTEST**

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ANALYSIS REPORT

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
E812453	09/06/88	14:30	MN	SOIL - CSD-B2, BACKGROUND SAMPLE, SW CORNER, 0-6" CENTRAL STEEL DRUM

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
SOLIDS, TOTAL PERCENT	75	2.0	%	09/09/88	DMC
ANTIMONY	89	0.10	MG/KG	09/14/88	MS
ARSENIC	5.3	0.10	MG/KG	09/14/88	MS
BERYLLIUM	<0.50	0.50	MG/KG	09/14/88	GG
CADMIUM	65	0.50	MG/KG	09/14/88	GG
CHROMIUM	1200	2.5	MG/KG	09/14/88	GG
COPPER	970	2.0	MG/KG	09/14/88	GG
LEAD	6500	10	MG/L	09/15/88	NH
NICKEL	160	4.0	MG/KG	09/14/88	GG
SELENIUM	1.9	0.10	MG/KG	09/14/88	MS
THALLIUM	0.12	0.10	MG/KG	09/14/88	MS
ZINC	3500	5.0	MG/KG	09/14/88	GG

MG/KG = PPM MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

NJDEP CERTIFICATION 12129

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ANALYSTS REPORT

SAMPLE No	COLLECTED			POINT OF COLLECTION
	DATE	TIME	BY	
E812453	09/06/88	14:30	MN	SOIL - CSD-B2, BACKGROUND SAMPLE, SW CORNER, 0-6" CENTRAL STEEL DRUM

TEST DESCRIPTION	RESULT	NDL	UNITS	DATE	INITIALS
PCB'S					
AROCHLOR 1016	ND	1700	UG/KG	09/15/88	RH
AROCHLOR 1221	ND	1700	UG/KG	09/15/88	RH
AROCHLOR 1232	ND	1700	UG/KG	09/15/88	RH
AROCHLOR 1242	ND	1700	UG/KG	09/15/88	RH
AROCHLOR 1248	ND	1700	UG/KG	09/15/88	RH
AROCHLOR 1254	24000	1700	UG/KG	09/15/88	RH
AROCHLOR 1260	ND	1700	UG/KG	09/15/88	RH

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
NDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

NJDEP CERTIFICATION 12:29

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : SORGE
 LAB SAMPLE #: E812451
 MATRIX : SOIL

METHOD : SW846 8240
 ANALYSIS DATE: 09/13/88
 DATA FILE : >B7198

	COMPOUND	RESULT (ug/kg)	MDL (ug/kg)	Q
	-----	-----	-----	---
1)	ACROLEIN	ND	730	
2)	ACRYLONITRILE	ND	730	
3)	BENZENE	15	36	J
4)	BROMOFORM	ND	36	
5)	BROMODICHLOROMETHANE	ND	36	
6)	BROMOMETHANE	ND	73	
7)	CARBON TETRACHLORIDE	ND	36	
8)	CHLOROBENZENE	170	36	
9)	CHLOROETHANE	ND	73	
10)	2-CHLOROETHYL VINYL ETHER	ND	73	
11)	CHLOROFORM	ND	36	
12)	CHLOROMETHANE	ND	73	
13)	cis-1,3-DICHLOROPROPENE	ND	36	
14)	DIBROMOCHLOROMETHANE	ND	36	
15)	1,2-DICHLOROBENZENE	ND	36	
16)	1,3-DICHLOROBENZENE	540	36	
17)	1,4-DICHLOROBENZENE	3900	36	
18)	1,1-DICHLOROETHANE	22	36	J
19)	1,2-DICHLOROETHANE	ND	36	
20)	1,1-DICHLOROETHYLENE	ND	36	
21)	trans-1,2-DICHLOROETHYLENE	9.2	36	J
22)	trans-1,3-DICHLOROPROPENE	ND	36	
23)	1,2-DICHLOROPROPANE	ND	36	
24)	ETHYLBENZENE	280	36	
25)	METHYLENE CHLORIDE	23	36	JB
26)	1,1,2,2-TETRACHLOROETHANE	ND	36	
27)	TETRACHLOROETHYLENE	390	36	
28)	TOLUENE	1000	36	
29)	1,1,1-TRICHLOROETHANE	24	36	J
30)	1,1,2-TRICHLOROETHANE	ND	36	
31)	TRICHLOROETHYLENE	94	36	
32)	TRICHLOROFLUOROMETHANE	ND	36	
33)	VINYL CHLORIDE	ND	73	
34)	m-XYLENE	640	36	
35)	p,o-XYLENE	970	36	

ND = NOT DETECTED
 MDL = METHOD DETECTION LIMIT

QUALIFIERS (Q)

J = INDICATES AN ESTIMATED VALUE BELOW MDL
 B = INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

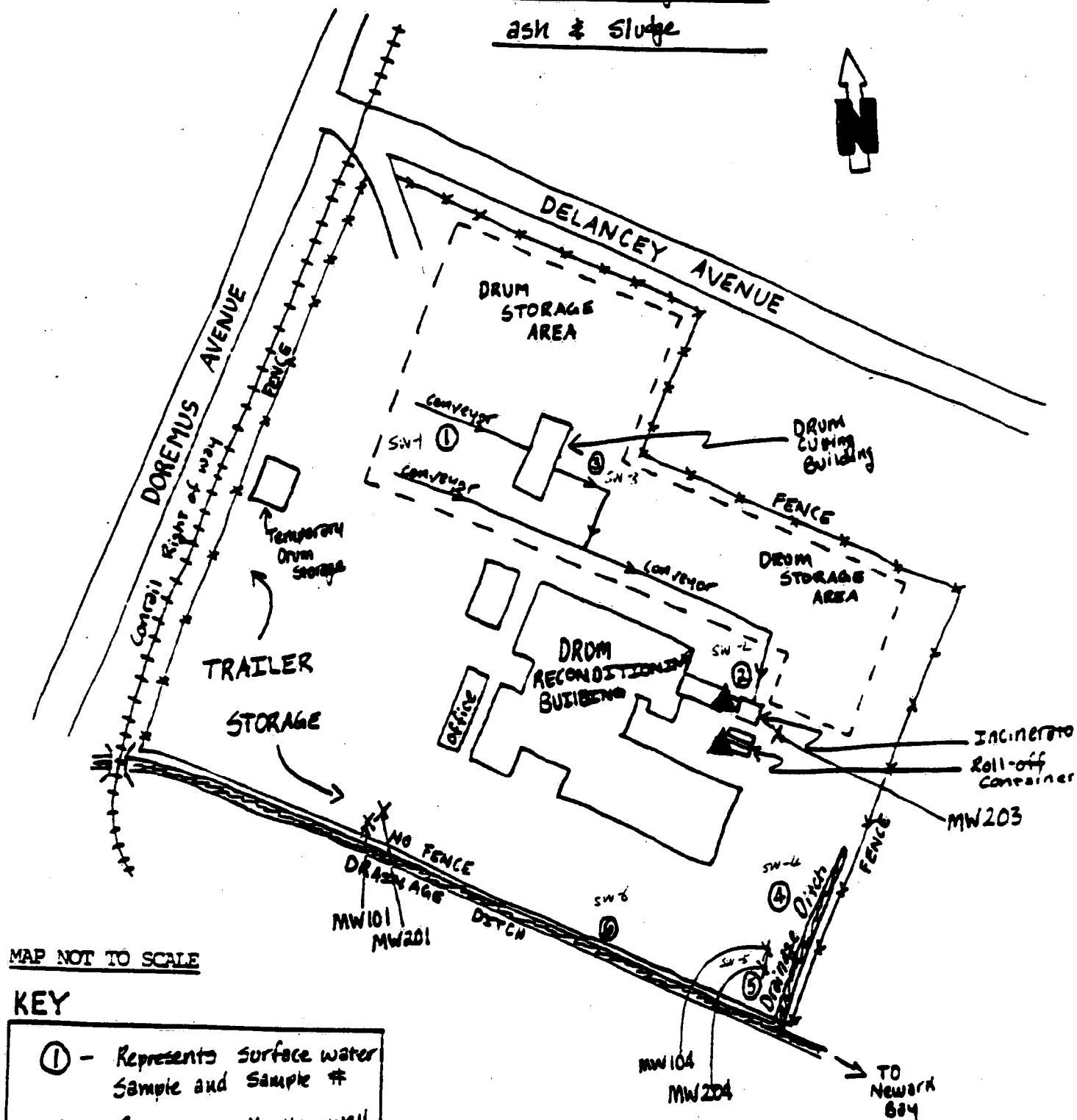
8077 pp°

SITE LOCATION MAP

CENTRAL STEEL DRUM CO., BLOCK 5074 LOT 1

NEWARK, ESSEX COUNTY

SAMPLE TYPE(S) - Surface water, ground water,
ash & sludge



MAP NOT TO SCALE

KEY

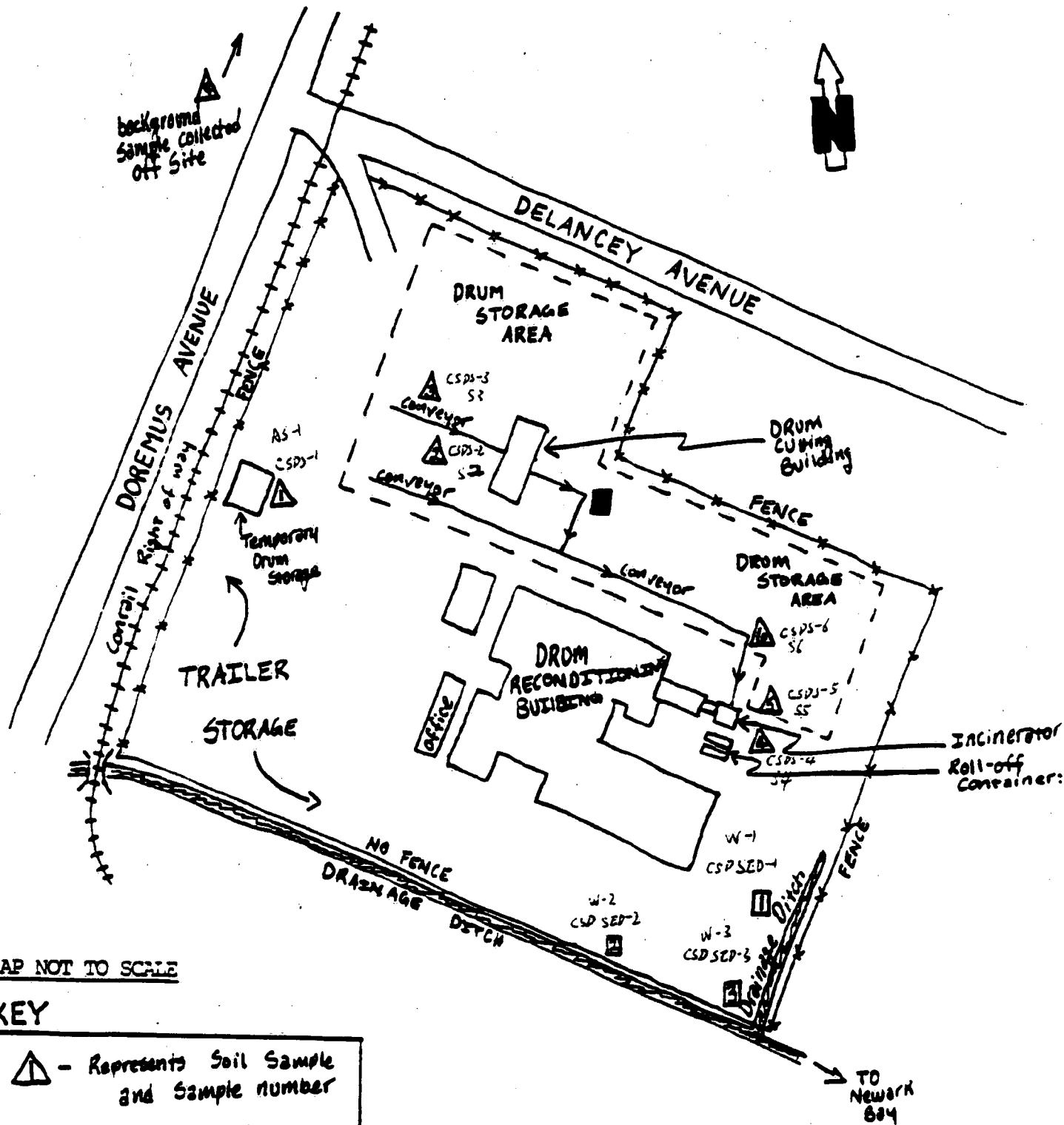
- ① - Represents surface water Sample and Sample #
- X - Represents Monitor well location - marked with Sample number
- ▲ - Represents ash and sludge Sample locations

SITE LOCATION MAP

CENTRAL STEEL DRUM CO., BLOCK 5074 LOT 1

NEWARK, ESSEX COUNTY

SAMPLE TYPE(S) - Soil, Sediment & Drum



MAP NOT TO SCALE

KEY




-  - Represents Soil Sample and Sample number
-  - Represents Sediment Sample and Sample number
-  - Represents Drum Sample Location

Table A
Central Steel Drus. Inc.
Summary of Analytical Results

Sampling Point ID Sampling Date Matrix	MW-101 8/29/90 Water	MW104 8/29/90 Water	MW-201 8/29/90 Water	MW-203 8/29/90 Water	MW-204 8/29/90 Water	MW204 Dup Water	FB-MW 8/29/90 Water	FB-MW 8/29/90 Water	MW-TB 8/29/90 Water	MW-TB 8/29/90 Water
VOLATILE ORGANIC COMPOUNDS (opt)										
Methylene chloride	ND	ND	ND	ND	ND	ND	16.0 B	22.0	8.0 B	11.0
Acetone	6.0 J	ND	5.0 J	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	6.6	ND	6.0	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Volatile Organics	14.0	ND	11.0	ND	ND	ND	ND	22.0	ND	11.0
Tentatively Identified Compoundst	ND	ND	ND	ND	ND	ND	ND	ND	ND	45.0 (1)
ACID EXTRACTABLES & BASE NEUTRALS (ppb)										
Bis(2-ethylhexyl)phthalate	4.7 J	5.3 J	3.8 J	ND	ND	NA	3.2 J			
Total AE + BN	4.7 J	5.3 J	3.8 J	ND	ND	NA	3.2 J	NA	NA	NA
Tentatively Identified Compoundst	111.0 (4)	ND	20.0 (1)	ND	91.0 (2)	NA	26.0 (1)	NA	NA	NA
ORGANOCHLORINE PESTICIDES (ppb)										
Polychlorinated biphenyl (ppb)	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
PRIORITY POLLUTANT METALS (ppb)										
Arsenic	30.00	ND	20.00	ND	2.04 J	ND	ND	NA	NA	NA
Cadmium	ND	ND	ND	ND	127.00	ND	ND	NA	NA	NA
Chromium	17.00 J	ND	76.00	ND	ND	ND	ND	NA	NA	NA
Copper	89.00	ND	90.00	43.00 J	ND	ND	ND	NA	NA	NA
Lead	148.00	ND	101.00	307.00	ND	ND	ND	NA	NA	NA
Mercury	ND	.36 J	.38 J	ND	.57 J	.83 J	ND	NA	NA	NA
Nickel	ND	ND	60.00	ND	ND	ND	ND	NA	NA	NA
Selenium	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Silver	11.00 J	6.00 J	ND	ND	14.00 J	ND	ND	NA	NA	NA
Thallium	ND	ND	ND	ND	ND	4.20 J	ND	NA	NA	NA
Zinc	220.00	71.00	463.00	ND	1070.00	926.00	6.00 J	NA	NA	NA
NET CHEMICALS (ppb)										
Cyanide	38	ND	ND	ND	ND	NA	ND	NA	NA	NA
Phenols	130	270	250	70	ND	NA	ND	NA	NA	NA
TOTAL PETROLEUM HYDROCARBONS (ppb)										
	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA

VOLATILE ORGANIC COMPOUNDS (ppb)

Methylene chloride	ND	ND	13.0	ND	ND	ND	ND	ND	ND	NA	NA	ND
Acetone	42.0	ND	990.0 E	ND	1200.0 E	550.0 E	1200.0 E	ND	ND	NA	NA	ND
Carbon disulfide	2.0 J	ND	ND	ND	ND	ND	9.0	ND	ND	NA	NA	240.0 E
1,1-Dichloroethene	7.0	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	15.0
1,1-Dichloroethane	65.0	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND
1,2-Dichloroethene (Total)	ND	ND	ND	ND	1.5 J	ND	6.0	ND	ND	NA	NA	ND
2-Butanone	13.0	ND	440.0 E	ND	14.0	14.0	ND	ND	ND	NA	NA	ND
1,1,1-Trichloroethane	270.0 E	280.0	54.0	ND	41.0	28.0	490.0 E	ND	15.0	NA	NA	210.0 E
Trichloroethene	ND	ND	15.0	ND	ND	ND	6.0	ND	ND	NA	NA	ND
Benzene	ND	ND	3.0 J	ND	ND	ND	4.0 J	ND	ND	NA	NA	ND
4-Methyl-2-Pentanone	26.0	ND	170.0	ND	12.0	5.0 J	70.0	ND	3.0 J	NA	NA	ND
Tetrachloroethene	ND	ND	4.0 J	ND	ND	ND	.9 J	ND	ND	NA	NA	19.0
Toluene	170.0	ND	1400.0 E	1500.0	41.0	19.0	460.0 E	470.0	7.0	NA	NA	130.0
Chlorobenzene	ND	ND	ND	ND	.5 J	ND	ND	ND	ND	NA	NA	ND
Ethyl benzene	91.6	ND	180.0	ND	15.0	ND	40.0	29.0	13.0	NA	NA	17.0
Styrene	ND	ND	ND	ND	1.0 J	ND	30.0	ND	ND	NA	NA	6.0
Xylene (Total)	510.0 E	310.0	500.0 E	650.0	ND	ND	180.0	160.0	130.0	NA	NA	83.0
Total Volatile Organics	1196.6	590.0	2709.0	2150.0	1525.0	616.0	2496.8	659.0	168.6	NA	NA	720.0
Tentatively Identified Compounds	125.2 (6)	ND	1827.9 (15)	ND	ND	688.9 (3)	1392.5 (8)	ND	38.0 (2)	NA	NA	310.0 (5)

ACID EXTRACTABLES & BASE NEUTRALS (ppb)

2-Methylphenol	ND	NA	ND	NA	18.0	NA	ND	29.0	ND	28.0	ND	ND
4-Methylphenol	ND	NA	ND	NA	20.0	NA	63.0	ND	ND	450.0	1100.0	73.0
2,4-dimethylphenol	ND	NA	ND	NA	10.0	NA	9.0 J	3.4 J	ND	18.0	24.0	4.4 J
Pentachlorophenol	ND	NA	ND	NA	ND	NA	50.0	ND	ND	ND	ND	ND
phenol	ND	NA	ND	NA	ND	NA	ND	ND	3.2 J	170.0	270.0	130.0
Acenaphthene	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	8.4 J	ND
Acenaphthylene	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	5.2 J	ND
Anthracene	ND	NA	8.2 J	NA	ND	NA	2.2 J	ND	ND	15.0	14.0	ND
Benzo(a)anthracene	ND	NA	ND	NA	ND	NA	ND	ND	ND	28.0	22.0	ND
Benzo(a)pyrene	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	46.0	ND
Benzo(b)fluoranthene	ND	NA	ND	NA	ND	NA	ND	ND	ND	36.0	ND	ND
Benzo(g,h,i)perylene	ND	NA	ND	NA	ND	NA	ND	ND	ND	16.0	ND	ND
Bis(2-ethylhexyl)phthalate	820.0 E	NA	530.0	NA	37.0	NA	260.0	280.0	20.0	3000.0	3000.0	41.0
Butyl benzyl phthalate	ND	NA	210.0	NA	ND	NA	45.0	8.4 J	ND	100.0	48.0	6.0 J
Chrysene	ND	NA	8.2	NA	ND	NA	ND	ND	ND	47.0	33.0	ND
1,2-Dichlorobenzene	ND	NA	ND	NA	ND	NA	ND	ND	ND	29.0	22.0	ND
Diethyl phthalate	ND	NA	ND	NA	4.9 J	NA	ND	ND	ND	ND	6.4 J	ND
Dimethyl phthalate	ND	NA	ND	NA	ND	NA	ND	ND	ND	5.0 J	ND	ND
Di-n-butyl phthalate	ND	NA	260.0	NA	ND	NA	19.0	42.0	2.9 J	38.0	34.0	ND
Di-n-octyl phthalate	ND	NA	ND	NA	ND	NA	ND	ND	ND	110.0	180.0	ND
1,2-Diphenylhydrazine	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND
Fluoranthene	3.3 J	NA	ND	NA	ND	NA	ND	5.7 J	ND	57.0	51.0	ND
Fluorene	ND	NA	6.0 J	NA	ND	NA	ND	ND	ND	12.0	13.0	ND
Indeno(1,2,3-c,d)pyrene	ND	NA	ND	NA	ND	NA	ND	ND	ND	19.0	ND	ND
Isophorone	ND	NA	470.0 E	NA	21.0	NA	89.0	ND	ND	130.0	78.0	27.0
Naphthalene	ND	NA	37.0	NA	ND	NA	12.0	ND	ND	71.0	63.0	5.2 J
N-Nitrosodimethylamine	ND	NA	23.0	NA	ND	NA	6.2 J	ND	ND	22.0	ND	ND
Phenanthrene	ND	NA	60.0	NA	ND	NA	9.4 J	11.0	ND	64.0	53.0	ND
Pyrene	5.3 J	NA	ND	NA	ND	NA	ND	8.2 J	ND	70.0	55.0	ND
1,2,4-Trichlorobenzene	ND	NA	ND	NA	ND	NA	ND	ND	ND	35.0	34.0	ND
Total AE + BN	828.6	NA	1610.4	NA	110.9	NA	564.8	387.7	26.1	4570.0	5162.0	286.6
Tentatively Identified Compounds	8119.0 (24)	NA	14021.0 (21)	NA	3211.0 (21)	NA	5213.0 (25)	4204.0 (25)	1337.0 (9)	9330.0 (25)	11390.0 (25)	2617.0 (25)

ORGANOCHLORINE PESTICIDES (ppb)

Polychlorinated biphenyl (ppb)	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
PCB-1254	40	NA	11	NA	4	NA	5	NA	2	NA	NA	ND

PRIORITY POLLUTANT METALS AND MET CHEMICALS (ppm)

Antimony	222.00	NA	415.00	NA	103.00	NA	90.00	NA	ND	NA	NA	ND
Arsenic	17.00	NA	12.00	NA	23.00	NA	4.60 J	NA	7.20 J	NA	NA	4.00 J
Cadmium	339.00	NA	163.00	NA	230.00	NA	44.00	NA	56.00	NA	NA	11.00
Chromium	3420.00	NA	245.00	NA	1150.00	NA	137.00	NA	463.00	NA	NA	73.00
Copper	2990.00	NA	676.00	NA	4830.00	NA	354.00	NA	1020.00	NA	NA	74.00
Lead	31200.00	NA	3690.00	NA	19000.00	NA	2330.00	NA	7630.00	NA	NA	383.00
Mercury	18.00	NA	1.10 J	NA	1.50 J	NA	.51 J	NA	ND	NA	NA	1.00 J
Nickel	275.00	NA	195.00	NA	355.00	NA	151.00	NA	124.00	NA	NA	ND
Selenium	7.40 J	NA	3.60 J	NA	ND	NA	3.30 J	NA	ND	NA	NA	2.50 J
Silver	ND	NA	17.00 J	NA	ND	NA	12.00 J	NA	ND	NA	NA	20.00 J
Zinc	13000.00	NA	5040.00	NA	11800.00	NA	1420.00	NA	4000.00	NA	NA	ND
Cyanide	ND	NA	ND	NA	60	NA	90	NA	97	NA	NA	ND
Phenols	150	NA	2000	NA	80	NA	1800	NA	840	NA	NA	100

Sampling Point ID Sampling Depth Sampling Date Matrix	CSDS-1 8/29/90 Soil	CSDS-2 8/29/90 Soil	CSDS-3 8/29/90 Soil	CSDS-4 8/29/90 Soil	CSDS-5 8/29/90 Soil	CSDS-6 8/29/90 Soil	CSDS-7 8/29/90 Soil	CSDSED1 8/29/90 Misc.	CSDSED2 8/29/90 Misc.	CSDSED3 8/29/90 Misc.
VOLATILE ORGANIC COMPOUNDS (ppb)										
Chloroethane	ND	ND	17	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	550 J	27	190 J	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	40	ND	ND	22000	ND	3500	ND	1600
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	93
1,2-Dichloroethane (Total)	ND	ND	ND	ND	27000	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	340000	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	120000	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	93000	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	300
Toluene	ND	20000	22	4500	220000	ND	ND	ND	ND	ND
Ethyl benzene	ND	1000	12	710	570000	310000 E	ND	9200	1700	1000
Styrene	ND	ND	ND	ND	66000	18000	ND	3400	3600	240
Xylene (Total)	ND	9000	93	4100	440000	140000	ND	2300 E	27000	4900
Total Volatile Organics Tentatively Identified Compounds	ND 513 (14)	30550 3700 (3)	211 318 (6)	9300 970 (12)	1876000 49000 (11)	490000 4200 (11)	ND 762 (7)	18400 700 (2)	32300 ND	8133 1784 (15)
ACID EXTRACTABLES & BASE NEUTRALS (ppt)										
Phenol	ND	ND	ND	ND	ND	46000	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	2900 J	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND	6000 J	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	3500 J
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	5900 J	ND	3200 J
Bis(2-ethylhexyl)phthalate	19000	620000 E	ND	180000 E	210000 E	1600000 E	ND	260000 E	67000	120000
Benzyl alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	ND	200000 E	ND	20000	ND	160000	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	4800 J	ND	ND
Diethyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	3500 J	66000	ND	16000	71000 E	170000	ND	6200	ND	ND
Di-n-octyl phthalate	ND	74000	ND	15000	24000	50000	ND	33000	ND	6400 J
Fluoranthene	ND	3200 J	ND	3300 J	2500 J	37000	ND	12000	4300 J	3000 J
Fluorene	ND	ND	ND	ND	ND	ND	ND	3600 J	ND	ND
Isophorone	ND	ND	9300	ND	ND	ND	ND	ND	4100 J	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	78000	ND	ND	ND	ND
Naphthalene	ND	2500 J	600 J	ND	3700 J	88000	ND	5600 J	ND	ND
Phenanthrene	ND	8900	ND	ND	2400 J	150000	ND	8900	1100 J	ND
Pyrene	ND	4700	ND	5000	4100	24000	ND	18000	3100 J	3900 J
1,2,4-Trichlorobenzene	ND	98000	ND	ND	ND	ND	ND	11000	4400 J	3400 J
Total AEs & BNs Tentatively Identified Compounds	22500 8500 (3)	1677300 952300 (24)	10100 388600 (124)	242300 73100 (14)	317700 783200 (25)	2403000 753000 (26)	ND 4700 (11)	379900 1337000 (24)	84000 1205500 (23)	143400 194500 (25)
ORGANOCHLORINE PESTICIDES (ppb)										
Polychlorinated biphenyl (ppb) PCB-1254	ND	ND	ND	ND	ND	ND	ND	12000	12000	20000
PRIORITY POLLUTANT METALS AND MET CHEMICALS (ppm)										
Aluminum	10900	4140	6980	31000	13800	4740	1510	14100	9800	13800
Antimony	ND	152	233	ND	ND	ND	ND	75.5	38	22.2
Arsenic	7.6	7.9	10.3	8.1	4	7.2	ND	10.1	15	40.5
Barium	279	1750	1540	1700	636	944	44.6	3170	2160	1360
Beryllium	1.9	ND	ND	ND	ND	ND	ND	ND	ND	1
Cadmium	9.7	148	57.4	46.9	23.2	41.6	ND	93.8	42.8	56.9
Calcium	17200	10200	7210	21000	19700	17900	4060	29400	21600	3890
Chromium	201	2470	2940	895	248	752	19.8	1170	863	747
Cobalt	21.9	36.7	49.3	73.2	33.5	47.2	ND	98.5	236	36
Copper	324	673	614	1710	350	706	28.4	1540	743	773
Iron	35600	25600	57500	169000	96700	90000	4810	80700	102600	41100
Lead	1720	8330	13100	6650	2040	4190	73.2	9080	7630	2100
Magnesium	4940	2130	2420	5540	8550	3000	ND	5950	5290	5000
Manganese	486	409	623	1150	665	751	90.7	882	808	320
Mercury	2.3	6.4	5.6	7.4	1.3	2.8	2	6.5	4	13
Nickel	56.3	105	109	174	62.1	126	19.5	154	108	90.2
Potassium	ND	ND	ND	ND	ND	ND	ND	ND	ND	1410
Selenium	ND	3.7	4.7	3.5	2.6	2.1	ND	6.4	1.3	5.1
Silver	ND	7	3.8	10.2	3.6	18	ND	13.6	4.6	4.1
Sodium	ND	ND	ND	1160	ND	ND	ND	1210	ND	ND
Vanadium	68.4	28.5	61	51.7	41.6	29.9	ND	84.7	91.7	92.4
Zinc	638	5210	2640	3030	547	2250	108	4760	3810	1750
Cyanide	5.6	ND	ND	5.6	.7	3.5	ND	3.5	10.4	7.1

Sampling Point ID Sampling Depth Sampling Date Matrix	CSDW03-DL 8/29/90 Misc.	CSDW1 8/29/90 Misc.	CSDW2 8/29/90 Misc.	CSDW3 8/29/90 Misc.	CSDWSP 8/29/90 Misc.	CSDFBSS 8/29/90 Water	TKIPBLANK 8/29/90 Water
VOLATILE ORGANIC COMPOUNDS (ppb)							
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	ND	ND
Acetone	110 J	ND	ND	ND	ND	2 JB	2 JB
Carbon Disulfide	ND	ND	ND	ND	ND	4200-E	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (Total)	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	200000	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND
Benzene	170	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
Toluene	480	ND	7900	400000	870000 E	ND	ND
Ethyl benzene	570	ND	ND	ND	100000	ND	ND
Styrene	ND	ND	ND	ND	15000	ND	ND
Xylene (Total)	3300	ND	ND	ND	520000	ND	ND
Total Volatile Organics Tentatively Identified Compounds	4830 ND	ND ND	7900 803000 (5)	400000 1176000 (3)	1705000 54000 (2)	4200 E ND	ND ND
ACID EXTRACTABLES & BASE NEUTRALS (ppb)							
Phenol	NA	ND	ND	ND	NA	ND	NA
Anthracene	NA	ND	ND	ND	NA	ND	NA
Benzo(a)anthracene	NA	ND	ND	ND	NA	ND	NA
Benzo(a)pyrene	NA	ND	ND	ND	NA	ND	NA
Benzo(b)fluoranthene	NA	ND	ND	ND	NA	ND	NA
Bis(2-ethylhexyl)phthalate	NA	ND	ND	ND	NA	ND	NA
Benzyl alcohol	NA	8400000	2000000	ND	NA	ND	NA
Butyl benzyl phthalate	NA	ND	ND	ND	NA	ND	NA
Chrysene	NA	ND	ND	ND	NA	ND	NA
Diethyl phthalate	NA	ND	2600000	ND	NA	23	NA
Di-n-butyl phthalate	NA	ND	ND	ND	NA	ND	NA
Di-n-octyl phthalate	NA	ND	ND	ND	NA	ND	NA
Fluoranthene	NA	ND	ND	ND	NA	ND	NA
Fluorene	NA	ND	ND	ND	NA	ND	NA
Isophorone	NA	ND	ND	ND	NA	ND	NA
2-Methylnaphthalene	NA	ND	ND	ND	NA	ND	NA
Naphthalene	NA	ND	ND	ND	NA	ND	NA
Phenanthrene	NA	ND	ND	ND	NA	ND	NA
Pyrene	NA	ND	ND	ND	NA	ND	NA
1,2,4-Trichlorobenzene	NA	ND	ND	ND	NA	ND	NA
Total AEs & BNs Tentatively Identified Compounds	NA NA	8400000 430000 (3)	4600000 12398000 (33)	ND 20296000 (5)	NA NA	23 454 (7)	NA NA
ORGANOCHLORINE PESTICIDES (ppb)							
Polychlorinated biphenyl (ppb) PCB-1254	NA NA	NA NA	NA NA	NA NA	NA NA	ND ND	NA NA
PRIORITY POLLUTANT METALS AND MET CHEMICALS (ppm)							
Aluminum	NA	NA	NA	NA	NA	ND	NA
Antimony	NA	NA	NA	NA	NA	ND	NA
Arsenic	NA	NA	NA	NA	NA	ND	NA
Barium	NA	NA	NA	NA	NA	ND	NA
Beryllium	NA	NA	NA	NA	NA	ND	NA
Cadmium	NA	NA	NA	NA	NA	ND	NA
Calcium	NA	NA	NA	NA	NA	ND	NA
Chromium	NA	NA	NA	NA	NA	ND	NA
Cobalt	NA	NA	NA	NA	NA	ND	NA
Copper	NA	NA	NA	NA	NA	ND	NA
Iron	NA	NA	NA	NA	NA	.0926	NA
Lead	NA	NA	NA	NA	NA	ND	NA
Magnesium	NA	NA	NA	NA	NA	ND	NA
Manganese	NA	NA	NA	NA	NA	ND	NA
Mercury	NA	NA	NA	NA	NA	ND	NA
Nickel	NA	NA	NA	NA	NA	ND	NA
Potassium	NA	NA	NA	NA	NA	ND	NA
Selenium	NA	NA	NA	NA	NA	ND	NA
Silver	NA	NA	NA	NA	NA	ND	NA
Sodium	NA	NA	NA	NA	NA	ND	NA
Vanadium	NA	NA	NA	NA	NA	ND	NA
Zinc	NA	NA	NA	NA	NA	.128	NA
Cyanide	NA	NA	NA	NA	NA	ND	NA

(Continued)

Sampling Point ID	A51	S2	S3	S4	S5	S6	S7	W1	W2	W3	WSP
Sampling Depth											
Sampling Date	8/29/90	8/29/90	8/29/90	8/29/90	8/29/90	8/29/90	8/29/90	8/29/90	8/29/90	8/29/90	8/29/90
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Misc.	Misc.	Misc.	Misc.
EP-TOXICITY METALS (ppm)											
Barium	.32	.215	.712	.78	.638	.214	.1	.0262	.0226	.0262	.8906
Cadmium	.0131	.0056	.0408	.0292	ND	.0308	ND	ND	ND	ND	.0385
Chromium	ND	.0171	.0383	ND	ND	ND	ND	ND	ND	ND	.0798
Lead	.0397	.135	.35	.0624	.0366	.0473	.0067	.0039	ND	.006	.386
Mercury	ND	ND	ND	ND	ND	ND	ND	.0003	ND	ND	ND
Silver	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES: NA - Not Analyzed
 ND - Not Detected
 ppb- Parts per Billion
 ppm- Parts per Million
 J - Less than method detection limit but greater than zero
 B - Found in Laboratory Blank
 () - Number of detected peak(s)
 E - Estimated value(s)
 * - Estimated value(s)

ATTACHMENT 5

JMS SAMPLING PROCEDURES

SURFACE SAMPLE COLLECTION PROCEDURE

Soil borings were made and samples collected from all sample locations in the following manner:

Equipment:

- o Two, 8-inch length stainless steel hand trowels;
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Distilled water/alconox mixture (2 gallons);
- o Two, plastic spray applicators;
- o Wide mouth, amber glass jars and septum vials with teflon lined screw caps;
- o Sample cooler/ice packs;

Procedure:

- 1) The surface area was cleared of debris by hand and a shallow hole dug with a hand trowel;
- 2) The hand trowel was placed in the hole and advanced to the desired sample depth and removed. Upon removal, the trowel was scrubbed clean using analconox and distilled water mixture. After scrubbing, the trowel was rinsed with thealconox/water mixture and then rinsed again with distilled water;
- 3) The soil materials encountered during the boring was logged by the geologist as they are brought to the surface;
- 4) The soil sample for laboratory analyses was placed in a wide-mouth amber jar or a septum vial with a teflon lined screw cap. A sample label was prepared showing the sample number, depth of collection, date, and analysis to be conducted. A Chain-of-Custody control form was also prepared.
- 5) The soil sample bottles were placed in a storage cooler at 4°C (wet ice) for transfer to the J M Sorge, Inc. offices in Somerville, New Jersey. (The samples were refrigerated until transfer to the laboratory for analysis).

HAND AUGER BORING AND SAMPLE COLLECTION

Soil borings were made and samples collected from all hand auger bore holes in the following manner:

Equipment:

- o Two, 4-inch O.D. stainless steel hand augers (AMS manufacture);
- o Two, 8-inch length, stainless steel hand trowels;
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Distilled water/alconox mixture (2 gallons);
- o Two, plastic spray applicators;
- o Wide mouth, amber glass jars and septum vials with teflon-lined screw caps;
- o Sample cooler/ice packs;
- o Bentonite pellets.

Procedure:

- 1) The surface area was cleared of debris by hand and a shallow hole (about 6 inches deep) was dug with a hand trowel;
- 2) The auger was placed in the hole and advanced to the desired sample depth and removed. Upon removal, the auger was scrubbed clean using analconox and distilled water mixture. After scrubbing, the auger was rinsed with thealconox/water mixture and then rinsed again with distilled water.
- 3) The soil materials encountered during the boring were logged by the geologist as they were brought to the surface.
- 4) A clean auger (the second) was used to collect the soil from the sample zone. The auger was advanced one foot and brought to the surface.

- 5) The soil was removed from the auger. Only the interior portion (3 to 4 inches) of the soil was collected for later analysis. The top and bottom of the sample were discarded. A portion of the sample was set aside for field analysis.
- 6) The soil sample for laboratory analyses was placed in a wide-mouth amber jar or septum vials with a teflon-lined screw cap. A sample label was prepared showing the sample number, depth of collection, date, and analysis to be conducted. A Chain-Of-Custody control form was prepared.
- 7) The soil sample bottles were placed in a storage cooler at 4° C (wet ice) for transfer to the J M Sorge, Inc. offices in Somerville, New Jersey. (The samples were refrigerated until transfer to the laboratory for analysis).
- 8) The auger used to collect the sample for laboratory analysis was decontaminated using the procedure detailed in Item 2 above.
- 9) After the sample was collected, the cleaned, first auger was used to advance the bore hole to the next sample horizon. The sampling process described above was then repeated.
- 10) At the completion of the boring, the bore hole was backfilled.

FIELD PHOTO-IONIZATION DETECTOR (PID) ANALYSIS

The following procedure will be used to establish "field estimates" of the concentration of volatile organic vapors in soil samples. It is noted here that the determinations made in the field are not considered valid for determining contamination extent and are not offered as concise analytical data. The use of the Hnu is standard on J M Sorge, Inc. projects involving organic compounds and will be useful in screening samples for later laboratory analysis.

Equipment:

- o Hnu Systems, Inc. photoionization detector, Model PI 101 with 11.7-eV probe;
- o Wrist watch;
- o Thermometer (C-scale);
- o Wide-mouth glass jars with teflon-lined screw caps (1 per sample).

Procedure:

- 1) Start up the Hnu meter according to standard operating procedures and calibrate apparatus as per instructions;
- 2) Record ambient air temperature.
- 3) Place probe into the empty glass jar and record any levels of organics in the jar. If readings indicate ANY organic level, discard bottle.
- 4) Place soil sample (approximately 20 grams) into the glass jar to the one centimeter level, replace cover and agitate vigorously for 30 seconds.
- 5) Place jar on flat surface and loosen screw cap. Lift cap enough to insert probe into jar to a depth about 1 centimeter above sample material on bottom, (do not allow the probe to come in contact with the soil), record level registered on the indicator.
- 6) Remove probe, empty contents from the jar, and discard the jar. Repeat procedures 2-6.
- 7) If the probe should come in contact with the soil, remove probe tip as per standard procedures, rinse with distilled water and hexane. Allow to air dry and then re-assemble. Make note of sample in which the contact occurred and mark subsequent samples analyzed there after.

SECTION 3

CALIBRATION

3.1 INTRODUCTION

The PI 101 Analyzer is designed for trace gas analysis in ambient air and is calibrated at HNU with certified standards of benzene, vinyl chloride and isobutylene. Other optional calibrations are available (e.g., ammonia, ethylene oxide, H₂S, etc.). Calibration data is given in the data sheet. If a special calibration has been done, the data is given in the Application Data Sheet, which notes the sample source, type of calibration (see Section 8, Appendix), and other pertinent information.

Good instrumentation practice calls for calibration on the species to be measured in the concentration range to be used. This procedure assures the operator that the analyzer is operating properly and will generate reliable data.

Some general points to consider when calibrating the PI 101 are that the analyzer is designed for operation at ambient conditions and therefore the gas standards used for calibration should be delivered to the analyzer at ambient temperatures and pressure and at the proper flow rates.

WARNING:

The PI 101 is a non-destructive analyzer; calibrations using toxic or hazardous gases must be done in a hood.

The frequency of calibration should be dictated by the usage of the analyzer and the toxicity of the species measured. If the analyzer has been serviced or repaired, calibration should be done to verify operation and performance. It is recommended that calibration be checked frequently at first (daily or every other day) and then regularly based on the confidence level developed.

The normal meter scaleplate is 0 to 20. If the scaleplate is different, refer to the Application Data Sheet. If there are questions, consult the HNU representative before proceeding with calibration check.

An accurate and reliable method of calibration check is to use an analyzed gas cylinder in a test setup as shown in Figure 3-1 and described below. Additional material on calibration is given in Section 8, Appendix.

3.2 ANALYZED GAS CYLINDER

- a. Concentration - The calibration gas cylinder is to contain the species of interest made up in an air matrix at or near the concentration to be analyzed. If the component is unstable in air, another matrix is to be used. The final calibration mixture should be similar to the sample the PI 101 will analyze. If the expected concentration is not known then a concentration should be chosen that will cause a scale displacement of 50 to 80% on the X10 range. Calibration on X10 range will provide accurate values on the X1 range as well.

SECTION 3.2, ANALYZED GAS CYLINDER cont.

For use on the 0-2000 range, a two-standard calibration is preferred: one at 70 to 85% of the linear range and the other at 25 to 35% of the linear range. With the linear range of approximately 600 ppm for most compounds these points would lie between 420 to 510 ppm and 150 to 210 ppm, respectively.

- b. Stability - The calibration gas must be stable within the cylinder during the period of use. If the calibration is required in the field, then use of a small cylinder is recommended. In addition, the choice of cylinder material in contact with the gas must be considered (steel, aluminum or teflon). If there are any questions, the operator should request stability and usage information from the gas supplier.

WARNING

Extreme care must be taken in the handling of gas cylinders. Contents are under high pressure. In some cases, the contents may be hazardous. Many gas suppliers will provide data sheets for the mixtures upon request.

- c. Delivery - The cylinder containing the calibration mixture must be connected to a proper regulator.

WARNING

Never open the valve on a gas cylinder container without a regulator attached.

Leak test all tank/regulator connections as well as the main cylinder valve to prevent toxic or hazardous materials from leaking into the work area. Care must be taken that the materials of construction of the regulator will not interact with the calibration gas.

One method of sampling the calibration gas is illustrated in Figure 3-1. Connect the cylinder to one leg of the tee, a flow meter to the opposite leg, and the probe to the third leg. The flow meter does not require a valve. If there is a valve, it must be left wide open. the flowmeter is only to indicate excess flow. Adjust the flow from the regulator such that only a little excess flow is registered at the flowmeter.

SECTION 3.2, ANALYZED GAS CYLINDER cont.

This insures that the PI 101 sees the calibration gas at atmospheric pressure and ambient temperature.

- d. Usage - Generally, a gas cylinder should not be used below 200-300 psi as pressure effects could cause concentration variations. The cylinder should not be used past the recommended age of the contents as indicated by the manufacturer. In case of difficulty, verify the contents and concentration of the gas cylinder.
- e. Alternate means of calibration are possible. For more information, contact the HNU Service Department.

3.3 PROBE

- a. Identify the probe by the lamp label. If a question exists, disassemble the probe and inspect the lamp. The energy of the lamp is etched into the glass envelope.
- b. Connect the probe to the readout assembly, making sure the red interlock switch is depressed by the ring on the connector.
- c. Set the SPAN pot to the proper value for the probe being calibrated. Refer to the calibration memo accompanying the probe.
- d. Check the Ionization Potential (IP) of the calibration gas to be used. The IP of the calibration gas must be at or below the IP of the lamp.
- e. Proceed with the calibration as described in Section 3.4. Check the calibration memo for specific data. If any questions develop, call the HNU representative.
- f. NOTE: The 11.7eV lamp has a special cleaning compound. Do not use water or any other cleaning compound with the 11.7 eV lamp. Do not interchange ion chambers, amplifier boards or lamps between probes. (See Section 5.2).

3.4 PROCEDURE

- a. Battery check - Turn the function switch to BATT. The needle should be in the green region. If not, recharge the battery.

SECTION 3.4, PROCEDURE cont.

- b. Zero set - Turn the function switch to STANDBY. In this position the lamp is OFF and no signal is generated. Set the zero point with the ZERO set control. The zero can also be set with the function switch on the XI position and using a "Hydrocarbon-free" air. In this case "negative" readings are possible if the analyzer measures a cleaner sample when in service.
- c. 0-20 or 0-200 range - For calibrating on the 0-20 or 0-200 range only one gas standard is required. Turn the function switch to the range position and note the meter reading. Adjust the SPAN control setting as required to read the ppm concentration of the standard. Recheck the zero setting (step b.). If readjustment is needed, repeat step c. This gives a two-point calibration; zero and the gas standard point. Additional calibration points can be generated by dilution of the standard with zero air if desired (see Section 8).
- d. 0-2000 range - For calibrating on the 0-2000 range, use of two standards is recommended as cited in Section 3.2a. First calibrate with the higher standard using the SPAN control for setting. Then calibrate with the lower standard using the ZERO adjustment. Repeat these several times to ensure that a good calibration is obtained. The analyzer will be approximately linear to better than 600 ppm, (see Figure 3-2). If the analyzer is subsequently to be used on the 0-20 or 0-200 range, it must be recalibrated as described in steps b. and c. above.
- e. Lamp cleaning - If the span setting resulting from calibration is 0.0 or if calibration cannot be achieved, then the lamp must be cleaned (see Section 5.2).
- f. Lamp replacement - If the lamp output is too low or if the lamp has failed, it must be replaced (see Section 5.3).

3.5 CALIBRATION CHECKING

Rapid calibration checking in the field can be accomplished by use of a small disposable cylinder containing isobutylene. Immediately after a calibration has been completed, a reading is taken on a special isobutylene standard. This provides a reference concentration measurement for later checking in the field. This can be done at any time with a portable cylinder containing this same special standard, using this reference reading as a check, and making adjustments to the analyzer if necessary. In effect, this is an indirect method of calibration, one maintaining the calibration to give direct readings for the original gas mixture, but using the portable isobutylene cylinder. Details are given in Section 8.2 of the Appendix.

TEST PIT EXCAVATION SAMPLE AND COLLECTION

Soil samples will be collected from test pit excavations as described below. The sample collection and handling procedures used for the test pit samples are very similar to those described above for the auger borings.

Equipment:

- o Backhoe (typically, 0.5-yard bucket, 18-foot reach);
- o Two, 4-inch O.D. stainless steel hand augers;
- o Two, 8-inch length, stainless steel hand trowels;
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Acetone (1 gallon);
- o Two plastic spray applicators;
- o Wide-mouth, amber glass jars and septum vials with teflon-lined screw-caps;
- o Sample cooler/ice packs.

Procedures:

1. Test pit areas will be cleared of surficial debris by the backhoe.
2. The machine will be used to excavate to within 0.5-foot of the desired sample horizon and a level surface cleared. The soil samples will be collected using a hand auger as the bucket of the backhoe cannot be adequately decontaminated.
3. The soil auger will be placed in the hole and advanced to the desired sample depth and removed. Upon removal, the auger will be scrubbed clean using an alconox and distilled water mixture. After scrubbing, the auger will be rinsed with the alconox/water mixture and then rinsed again with distilled water. The auger will be rinsed with acetone to remove any residual contamination, air dried, then given a final rinse with distilled water.
4. The soil materials encountered during the boring will be logged by a J. D. Forge, Inc. geologist as they are brought to the surface.

- 5) A clean auger (the second auger) will be used to collect the soil sample from the zone of interest. The auger will be advanced about six inches and the soil material brought to the surface.
- 6) The soil will be removed from the auger. Only the interior portion (3 to 4 inches) of the soil will be collected for later analysis. The top and the bottom portions of the auger sample will be discarded. A portion of the sample will be set aside for field analysis.
- 7) The soil sample for laboratory analysis will be placed in a wide-mouth amber jar or a septum vial with a teflon lined screw cap. A sample label will be prepared showing the sample number, depth of collection, date, and analysis to be conducted. A Chain-of-Custody control form will also be prepared.
- 8) The soil sample bottles will be placed in a storage cooler at 4°C (wet ice) for transfer to the J. V. Sorce, Inc. offices in Somerville, New Jersey.

SPLIT SPOON SAMPLE COLLECTION PROCEDURE

Soil borings will be advanced using a truck mounted, hollow stem auger rig which utilizes a 140 pound drop hammer to drive split spoons into the sediment. Soil samples will be collected by standard split spoons in the following manner:

Equipment:

- o Truck mounted hollow stem auger rig;
- o Two (2) stainless steel 2" diameter split spoon samplers
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Distilled water/alconox mixture (2 gallons);
- o Acetone (1 gallon);
- o Two (2) plastic spray applicators;
- o Wide-mouth, amber glass jars and septum vials with teflon-lined screw caps;
- o Sample cooler/ice packs;
- o Bentonite pellets.

Procedure:

- 1) A truck-mounted, hollow stem auger rig will be used to advance the boring to a point above the desired sampling depth;
- 2) A clean, split spoon sampler will be driven two (2) feet into the material and then withdrawn according to ASTM D.1586 (two (2) split spoon samplers will be used in order to accommodate the continuous sampling effort and minimize equipment decontamination down time);
- 3) A sample will be collected from the mid-portion of the split spoon, the lower and upper few inches of sample will be discarded. A portion of the sample will be set aside for field analysis by Hnu photoionization detector.
- 4) Samples collected at the desired depths will be designated for chemical analysis -- these samples will be placed in wide-mouth, amber glass jars or septum vials with teflon-lined screw caps;

- 5) After each sampling, the split spoons will be rinsed with distilled water and an alconox solution -- a brush will be used if necessary to remove soil that adhered to the split spoon -- and another potable water rinse will be made. A rinse will be made with Acetone, air dried, and the final rinse with distilled water. The split spoon will be allowed to air dry prior to being used to collect another sample;
- 6) Once the samples are placed in the wide-mouth, amber glass jars or septum vials and sealed with Teflon-lined screw caps, they will be placed in a storage cooler maintained at 4°C for transfer to the J M Sorge, Inc. offices in Somerville, New Jersey, where they will be refrigerated until transfer to the laboratory. A standard company Chain-of-Custody form will be completed to record sample custody.
- 7) All boreholes are backfilled with the natural cuttings and bentonite to the surface and restored to near their original appearance.

GROUNDWATER SAMPLE COLLECTION PROCEDURES

Water samples will be collected from the monitoring wells in the following manner:

Equipment:

- o Centrifugal/submersible pump and inert suction/discharge tubing;
- o Three (3), 1 1/2-inch O.D., stainless steel bailers with stainless steel leaders;
- o Cotton rope;
- o Distilled water (2 gallons);
- o Acetone (1 gallon);
- o Two (2) plastic spray applicators;
- o Small neck, amber glass jars with teflon-lined screw caps, and septum vials;
- o Sterilized surgical gloves (disposable); and,
- o Sample cooler/ice packs.

Procedure:

- 1) A minimum of three (3) to five (5) well volumes will be evacuated from each well prior to sample collection using either a centrifugal or submersible pump outfitted with inert suction/discharge tubing. The pump intake will be carefully raised and lowered across the full screen length to ensure a thorough purging of the entire screened interval. Typically, the final well volume will be evacuated at a rate of one gallon per minute or less.
- 2) Groundwater samples will be collected using a stainless steel bailer with stainless steel leader that is attached to cotton rope. The stainless steel leader will be of sufficient length to eliminate contact of the cotton rope with the groundwater. Sterilized surgical gloves will be worn during the sampling procedures.

- 3) The water samples will be poured into the sample containers with teflon-lined screw caps. Careful procedures will be used to ensure that no air remains in the septum vials. A sample label will be prepared showing the sample number, sample location, date, time, and analysis to be conducted. A Chain-of-Custody control form will also be prepared.
- 4) The sample bottles will be placed in a storage cooler at 4°C (wet ice) for transport to the laboratory. All standard Chain-of-Custody control procedures will be followed.
- 5) Between sample collections, the well purging equipment and bailer will be scrubbed clean using an alconox and distilled water mixture. After scrubbing, the equipment will be rinsed with the alconox/water mixture and then rinsed again with distilled water. Finally, the equipment will be rinsed with acetone to remove any residual material, and will then be air dried. A dedicated length of tubing and bailer will be used during the well purging and sampling at each location in order to minimize potential cross-contamination.
- 6) Once the samples are placed in the containers and sealed with teflon-lined screw caps, they will be placed in a storage cooler maintained at 4°C for transfer to the J M Sorge, Inc. offices, where they will be refrigerated until transfer to the laboratory.

WASTE CLASSIFICATION SOIL SAMPLING PROCEDURES

The following information details the Waste Classification Soil Sample Collection Procedures. These procedures represent methods utilized to ensure the validity of soil samples collected at the site.

The composite soil samples will be collected in the following manner:

Equipment:

- o Two, 4-inch O.D., stainless steel hand auger;
- o Two, stainless steel hand trowels;
- o 5-quart stainless steel mixing bowl;
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Distilled water/alconox mixture (1 gallon);
- o Acetone (1 gallon);
- o Plastic spray bottle applicators;
- o Wide-mouth, amber glass jars with teflon-lined screw caps;
- o Sample cooler/ice packs

Procedure:

- 1) One (1) composite soil sample will be collected each 100 cubic yards of excavation spoils. Each composite sample will be made up of four (4) individual soil samples. The soil samples will be collected from different boring depths to attain the most accurate representation of the waste spoils.
- 2) The auger will be advanced to the desired sampling depths, and the auger controls will be placed into a stainless steel mixing bowl. Following the collection of four (4) soil samples, the contents within the bowl will be thoroughly emptied on a bench-kote paper and divided into quarters. Only one quarter will be placed into a sampling jar.

- 3) Upon completion of the sampling for that particular drum, the auger will be scrubbed clean, using alconox and distilled water mixture. After scrubbing, the auger will be rinsed with a alconox/distilled water mixture and then rinsed again with distilled water. The auger will be rinsed with acetone to remove any residual materials, allowed to air dry, then given a final rinse of distilled water. The hand trowel and mixing bowl will also be decontaminated following the same procedures between sample collection.
- 4) The soil sample for laboratory analyses will be placed into a wide-mouth amber jar with a teflon-lined screw cap. A sample label will be prepared showing the sample number, date, and analysis to be conducted. A Chain-of-Custody Control form will also be prepared.
- 5) The soil sample bottles will be placed into a storage cooler at 4°C (ice packs) for transport to the J. M. Sarge, Inc. offices located in Somerville, NJ. The samples will be refrigerated until transferred to the laboratory for analysis.

TRUCK MOUNTED AUGER SAMPLING PROCEDURES

Soil borings were advanced using a truck mounted, solid stem auger rig. Soil samples were collected by standard hand auger techniques in the following manner:

Equipment:

- o Truck mounted solid stem auger rig;
- o Two, 8-inch length, stainless steel hand trowels;
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Distilled water/alconox mixture (2 gallons);
- o Acetone (1 gallon);
- o Two (2) plastic spray applicators;
- o Wide-mouth, amber glass jars and septum vials with teflon-lined screw caps;
- o Sample cooler/ice packs;
- o Bentonite pellets.

Procedure:

- 1) A truck-mounted, solid stem auger rig was used to advance the boring to a point above the desired sampling depth;
- 2) The soil materials encountered during the boring were logged by the geologist as they were brought to the surface;
- 3) The auger was placed in the hole and advanced to the desired sample depth and removed. Upon removal, the auger was scrubbed clean using analconox and distilled water mixture. After scrubbing, the auger was rinsed with thealconox/water mixture and then rinsed again with distilled water. The auger was rinsed with acetone to remove any residual materials then air dried, and given a final rinse with distilled water.

- 4) A clean auger (the second) was used to collect the soil from the sample zone. The auger was advanced one foot and brought to the surface.
- 5) The soil was removed from the auger. Only the interior portion (3 to 4 inches) of the soil was collected for later analysis. The top and bottom of the sample was discarded. A portion of the sample was set aside for field analysis.
- 6) The soil sample for laboratory analyses was placed in a wide-mouth amber jar or septum vials with a teflon-lined screw cap. A sample label was prepared showing the sample number, depth of collection, date, and analysis conducted. A Chain-of-Custody control form was also prepared.
- 7) The soil sample bottles were placed in a storage cooler at 4°C (wet ice) for transfer to the J M Sorge, Inc. offices in Somerville, NJ. (The samples were refrigerated until transfer to the laboratory for analysis).
- 8) The auger used to collect the sample for laboratory analysis was decontaminated using the procedure detailed in Item 3 above.
- 9) At the completion of the boring, the bore hole was backfilled with bentonite.

MONITORING WELL INSTALLATION PROCEDURES

The monitoring wells will be drilled and installed under direct supervision of a New Jersey-licensed well driller and a J M Sorge, Inc. (JMS) hydrogeologist. The drilling company will contact NJDEP for a State well permit for each well. The wells will be constructed according to NJDEP's specifications for monitoring wells in unconsolidated formations.

Drilling will be done using a truck-mounted, hollow stem auger drill rig. Split spoon samples (Standard Penetration Test) will be taken at 5-foot intervals or changes in lithology. The JMS hydrogeologist will be responsible for collecting the soil samples and maintaining a detailed log of the materials penetrated in each boring. The split spoon samplers will be decontaminated before and after each use by a triple rinse method: 1. scrubbing with distilled water andalconox mixture; 2. acetone rinse; and, 3. final distilled water rinse.

Upon completion of the drilling, the monitoring wells will be constructed of 2-inch diameter, Schedule 40 PVC well-casing and screen (0.020-inch slot size) set in an 6-inch diameter boring. The total depth of each well will be determined in the field, but is expected to be about 30 feet below grade with the well screen set that at least 10 feet of the saturated thickness is "screened". The well screen will be placed so that a minimum of three (3) feet of screen extends above the top of the water table in order to monitor any product "floating" on top of the water. This will also allow for seasonal fluctuations in the water table. The well screen and riser pipe will be connected by threaded couplings; the bottom of the screen will have a bottom cap and the top of the riser will have a removable PVC cap. The riser pipe will extend approximately two (2) feet above the ground surface.

The annular space between the screen borehole wall will be filled with a sand filter pack (J. Morrie No. 2 sand or equivalent) that will extend a minimum of one (1) foot above the top of the screen. A bentonite pellet seal (minimum of 1 foot) will be placed on top of the sand pack prior to grouting the remaining annular space with a 5 percent bentonite/95 percent cement slurry. A steel protective casing with locking cap will be cemented at the surface to induce runoff away from the well and to prevent unauthorized entry into the well.

At the completion of the well installations, each well will be developed by pumping to remove any residual fine materials from the sand pack and the formation to ensure adequate water flow. Development will continue until the water flowing from the well is relatively clean and free of fines.

Following the development, the top of well casing elevation and ground surface elevation will be surveyed to within 0.01 foot by a New Jersey-licensed land surveyor. The locations of the wells will be plotted on a site map with respect to existing structures at the site.

SEPTIC TANK WATER AND SLUDGE SAMPLE COLLECTION

Equipment:

- o Telescoping pond sampler;
- o Stainless steel beaker (250 ml);
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Distilled water/alconox mixture, (2 gallons);
- o Acetone (1 gallon);
- o Two, plastic spray applicators;
- o Wide mouth amber glass jars and septum vials with teflon lined screw caps;
- o Sample cooler/ice packs;
- o Sterilized surgical gloves (disposable)

Procedure:

- 1) Septic tank water sample is collected using a stainless steel beaker that is attached to the telescoping pond sampler;
- 2) The sample is collected in a manner designed to minimize the disturbance of the water in order to avoid unnecessary mixing of sediment and water. Sterilized surgical gloves will be worn during the sampling procedure;
- 3) The water samples are poured into a wide mouth amber glass jar with a teflon lined screw cap and two (2) 40 ml vials with teflon lined screw caps. Careful procedures are used to insure that no air remained in the septum vials. A sample label is prepared showing the sample number, sample location, date, time and analysis to be conducted. A Chain-of-Custody Control form is also be prepared;

- 4) The septic tank sludge sample is collected using the same procedure stated in Procedure 1 above;
- 5) The sludge sample is placed in a wide mouth amber glass jar with a teflon lined screw cap or wide mouth septum vials with teflon lined screw caps. A sample label is prepared showing the sample number, sample location, date, time and analysis to be conducted. A chain-of-custody control form is also prepared;
- 6) The water and sludge sample bottles are placed in a storage cooler at 4°C (wet ice) for transporting to the laboratory. All standard Chain-of-Custody Control procedures will be followed;
- 7) Between sample collections, the beaker is scrubbed clean using analconox and distilled water mixture. After scrubbing, the beaker is rinsed with thealconox/water mixture and then rinsed again with distilled water. Finally the beaker is rinsed with acetone to remove any residual petroleum material (if present) and then is air dried.

QUALITY ASSURANCE/QUALITY CONTROL

The following subsection details the soil sampling collection and laboratory analysis procedures utilized during the field operations at the facility location. These procedures represent methods utilized to ensure the validity of soil samples collected at the site and cover the means whereby borings were advanced and test pits excavated as well as the collection and transportation of the soil samples.

The sample analysis will be conducted by Accutest Laboratories of North Brunswick, New Jersey. Accutest is a New Jersey certified analytical laboratory capable of conducting the required analyses. The samples will be measured for total petroleum hydrocarbons and volatile organics, and priority pollutants. If for any reason another laboratory conducts the sample analysis, the appropriate QA/QC procedures will be provided. In any case sample analysis procedures will conform to NJDEP Laboratory Requirements (Attachment 2, Draft Sampling Plan Guide, June 6, 1986).

HAND AUGER BORING AND SAMPLE COLLECTION

Soil borings will be made and samples collected from the all hand auger bore holes in the following manner:

Equipment:

- o Two, 4-inch O.D. stainless steel hand augers (AMS manufacture);
- o Two, 8-inch length, stainless steel hand trowels;
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Distilled water/alconox mixture (2 gallons);
- o Acetone (1 gallon);
- o Two, plastic spray applicators;
- o Wide mouth, amber glass jars with teflon-lined screw caps;
- o Sample cooler/ice packs;
- o Bentonite pellets.

Procedure:

- 1) The surface area will be cleared of debris by hand and a shallow hole dug (about 6 inches deep) with a hand trowel;
- 2) The auger will be placed in the hole and advanced to the desired sample depth and removed. Upon removal, the auger will be scrubbed clean using an alconox and distilled water mixture. After scrubbing, the auger will be rinsed with the alconox/water mixture and then rinsed again with distilled water. The auger will be rinsed with acetone to remove any residual materials, then air dried, then given a final rinse with distilled water;
- 3) The soil materials encountered during the boring will be logged by the geologist as they are brought to the surface;
- 4) A clean auger (the second) will be used to collect the soil from the sample zone. The auger will be advanced one foot and brought to the surface;
- 5) The soil will be removed from the auger. Only the interior portion (3 to 4 inches) of the soil will be collected for later analysis. The top and the bottom of the sample will be discarded. A portion of the sample will be set aside for field analysis (see below, 4-4).
- 6) The soil sample for laboratory analyses will be placed in a wide-mouth amber jar with a teflon-lined screw cap. A sample label will be prepared showing the sample number, depth of collection, date, and analysis to be conducted. A Chain-Of-Custody control form will also be prepared. See Figure 4-1 for a copy of the Chain-of-Custody form.
- 7) The soil sample bottles will be placed in a storage cooler at 4° C (wet ice) for transfer to the J M Sorge, Inc. offices in Somerville, New Jersey. (The samples will be refrigerated until transfer to the laboratory for analysis).
- 8) The auger used to collect the sample for laboratory analysis will be decontaminated using the procedure detailed in Item 2 above.

- 9) After the sample is collected, the cleaned, first auger will be used to advance the bore hole to the next sample horizon. The sampling process described above will be then repeated.
- 10) At the completion of the boring, the bore hole will be backfilled with bentonite.

TEST PIT EXCAVATION SAMPLE AND COLLECTION

Soil samples will be collected from test pit excavations as described below. The sample collection and handling procedures used for the test pit samples are very similar to those described above for the auger borings.

Equipment:

- o Backhoe (typically, 0.5-yard bucket, 18-foot reach);
- o Two, 4-inch O.D. stainless steel hand augers;
- o Two, 3-inch length, stainless steel hand trowels;
- o Disposable fiber brush;
- o Distilled water (2 gallons);
- o Acetone (1 gallon);
- o Two plastic spray applicators;
- o Wide-mouth, amber glass jars and septum vials with teflon-lined screw-caps;
- o Sample cooler/ice packs.

Procedures:

1. Test pit areas will be cleared of surficial debris by the backhoe.
2. The machine will be used to excavate to within 0.5-foot of the desired sample horizon and a level surface cleared. The soil samples will be collected using a hand auger as the bucket of the backhoe cannot be adequately decontaminated.
3. The soil auger will be placed in the hole and advanced to the desired sample depth and removed. Upon removal, the auger will be scrubbed clean using an alconox and distilled water mixture. After scrubbing, the auger will be rinsed with the alconox/water mixture and then rinsed again with distilled water. The auger will be rinsed with acetone to remove any residual contamination, air dried, then given a final rinse with distilled water.
4. The soil materials encountered during the boring will be logged by a J. H. Hodge, Inc. geologist as they are brought to the surface.

- 5) A clean auger (the second auger) will be used to collect the soil sample from the zone of interest. The auger will be advanced about six inches and the soil material brought to the surface.
- 6) The soil will be removed from the auger. Only the interior portion 3 to 4 inches of the soil will be collected for later analysis. The top and the bottom portions of the auger sample will be discarded. A portion of the sample will be set aside for field analysis.
- 7) The soil sample for laboratory analysis will be placed in a wide-mouth amber jar or a septum vial with a teflon lined screw cap. A sample label will be prepared showing the sample number, depth of collection, date, and analysis to be conducted. A Chain-of-Custody control form will also be prepared.
- 8) The soil sample bottles will be placed in a storage cooler at 4°C (wet ice) for transfer to the F M Sarge, Inc. offices in Somerville, New Jersey.

ATTACHMENT 6

PROJECT PERSONNEL RESUMES

JOSEPH M. SORGE

PRESIDENT

EXPERIENCE

Joseph Sorge as President is ultimately responsible for the technical quality and direction of the firm. For the past 10 years Mr. Sorge has worked in New Jersey on the solution of industrial hazardous waste problems ranging from Superfund to ECRA problems. As the former President of a national consulting firm, Mr. Sorge directed a team of over 40 professionals in various aspects of the hazardous waste field. Mr. Sorge has over 20 years of professional consulting experience covering an extremely broad range of the environmental field.

Mr. Sorge has concentrated his expertise on solving ECRA-related problems for the New Jersey based industry. Mr. Sorge stresses the development of total ECRA solutions through the development of a comprehensive program designed to clear the site in a practical manner. He has successfully applied this technique to numerous facilities ranging from large industrial complexes to small commercial properties. He has directed or managed the clearance of several hundred facilities.

Mr. Sorge directed a multi-million-dollar EPA support contract which included the development of technical training programs, permit applications guidance manuals, and the evaluation of advanced technical solutions to hazardous waste problems. He also managed an extensive investigation of landfill design and performance standards for the EPA which required the coordination of six (6) consulting organizations and two (2) EPA research units. The results of the investigation were used as the technical basis for modifying portions of the Federal RCRA regulations.

Joseph Sorge's experience in project management for industrial clients includes: air monitoring projects, PSD air studies, and facility siting and feasibility studies. Mr. Sorge's practical knowledge of environmental regulatory programs resulted in assistance to industrial clients in Michigan, Wisconsin, Illinois and Indiana on three (3) nuclear power facilities, chemical plants, waste water treatment facilities and other industrial complexes. The scope of projects handled included air pollution, waste disposal, monitoring system design and quality assurance.

EDUCATION

MS - Atmospheric Physics (1974)
State University of New York - Albany

BS - Physics/Math (1973)
University of Wisconsin

REGISTRATIONS

Certified Consulting Meteorologist (#225)

**PROFESSIONAL
ORGANIZATIONS**

Sigma Pi Sigma - Physics Honor Society
Air Pollution Control Association
National Council of Industrial Meteorologists (#97)
American Meteorological Society

CERTIFICATION

Certified Energy Consultant (NJ)
OSHA Supervisor Training
Confined Space Entry Training
Underground Storage Tank Certification (NJ)
Underground Storage Tank Certification (PA)

MICHAEL J. NOVAK
SENIOR ENGINEER

EXPERIENCE:

Michael Novak is responsible for conducting environmental site evaluations, the development and implementation of Remedial Investigation Plans, and the planning and implementation of both soil and groundwater remediation programs. As a Project Manager, he assisted over thirty (30) large and small industrial clients in gaining New Jersey Environmental Clean-up Responsibility Act (ECRA) clearance. Mr. Novak has also prepared Discharge Investigation and Corrective Action Reports (DICAR) for several facilities regulated by the NJDEPE Bureau of Underground Storage Tanks (BUST) program. He has assisted clients with obtaining New Jersey Pollution Discharge Elimination System (NJPDES) permits for both surface and groundwater discharges. In addition, he has conducted investigations for facilities regulated by the Discharge Prevention Control and Countermeasures (DPCC) Act.

In addition to NJDEPE-related projects, Mr. Novak has conducted several environmental site assessments for commercial real estate firms, banking institutions and investment trust organizations. He recently directed a rapid evaluation and assessment of 81 commercial facilities located in more than 30 states across the USA. Each facility was inspected by JMS personnel for environmental concerns, including the presence of USTs or hazardous materials.

Prior to joining J M Sorge, Inc., Mr. Novak served as a Staff Engineer with the Earth Technology Corporation. In that position his duties included field inspections, groundwater and soil and surface water sampling, as well as installation of groundwater monitoring systems.

EDUCATION:

B.S. Industrial Engineering (1987)
Lehigh University
Bethlehem, Pennsylvania

**PROFESSIONAL
MEMBERSHIPS**

Institute of Industrial Engineers

CERTIFICATION

OSHA Supervisor Training
OSHA Health and Safety Training
Underground Storage Tank Certification (NJ)
Underground Storage Tank Certification (PA)

CHRISTOPHER J. FINLEY

PROJECT ENGINEER

EXPERIENCE

Chris Finley is responsible for conducting Due Diligence site investigations; the development and implementation of Remedial Investigation Plans; and, the planning and implementation of Remedial Action Work Plans, which include both soil and groundwater remediation programs. As a Project Engineer, he assists large and small industrial and commercial clients in the preparation and implementation of regulatory compliance programs in accordance with the requirements of Federal and State environmental regulatory agencies (i.e., ISRA, RCRA, NJPDES and BUST). Mr. Finley is also responsible for the Quality Assurance/Quality Control of all laboratory data.

Prior to joining J M Sorge, Inc., Mr. Finley served as an Assistant Township Engineer with the Township of Brighton. His duties included preliminary site plan review as well as engineering specifications and calculations for township projects. Projects consisted of design and implementation of water and wastewater transportation systems, along with surface detention and retention pond capacities for a 100 year storm event.

EDUCATION

BS - Civil Engineering (1990)
Rochester Institute of Technology
Rochester, New York

Associates Degree - Applied Science
Raritan Valley College
Bridgewater, New Jersey

CERTIFICATION

OSHA Health and Safety Training
Confined Space Entry Training
Underground Storage Tank Certification (NJ)

MEMBERSHIP

American Society of Civil Engineers

KURT M. ROCK
SENIOR STAFF SCIENTIST

EXPERIENCE

Kurt Rock is responsible for conducting field investigations of commercial and industrial waste sites including those regulated by the Environmental Clean-up Responsibility Act (ECRA). He conducts site inspections, groundwater and soil and surface water sampling under the direction of a J M Sorge, Inc. Project Manager. He works closely with J M Sorge, Inc. geologists and hydrogeologists to develop and install groundwater monitoring systems.

Mr. Rock's responsibilities also include conducting waste inventories, facility histories, and ECRA General Information Submissions and Site Evaluation Submissions.

EDUCATION

BA - Geography (1987)
East Stroudsburg University
East Stroudsburg, Pennsylvania

CERTIFICATION

OSHA Supervisor Training
OSHA Health and Safety Training
Confined Space Entry Training
Underground Storage Tank Certification (NJ)
Test Boring Certification (NJ)